

The Architect's Newspaper

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A remembrance of Claes Oldenburg re-surfaces the tale of an early monument page 16	Mauricio Rocha extends Museo Anahuacalli using volcanic stone page 20	In San Francisco, AM checks in with Jensen Architects page 22	 Gehry Partners completes a boxy campus in Watts for Children's Institute page 24
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Endurance & Change in California

As California goes, so goes this issue of *AN*. Through the four articles in this feature section, we traverse Los Angeles's new 6th Street Viaduct, eyeball the insufficiency of tiny home villages, feel out the robust constructions of wildfire country, and revisit the eminently topical work of architect Gregory Ain. Read on page 31.



JOE FLETCHER

Better than a Poop Emoji?

The past few years have demonstrated Big Tech's desire for brand-new "Big and Loud" buildings. Thankfully, Chicago has remained relatively immune to the trend: Unlike Norman Foster's Apple Park in Cupertino or Amazon's "Helix" headquarters in Arlington, Virginia (known for its "poop emoji" helical form), tech companies in Chicago have maintained a conservative architectural footprint that, surprisingly, has relied on existing building stock. Google, the most prominent of those tech giants, landed in Chicago's West Loop in 2015 after rehabbing a modest cold storage building into an unshowy office loft that inspired less "architectural marvel" than it did property value growth in the surrounding neighborhood. But in July, Google announced that it will expand its offices into the James R. Thompson Center (JRTC)—launching its own local "Big and Loud" presence through adaptive reuse.

Designed by Helmut Jahn and built in 1985 to house State of **continued on page 13**

On Bramante



BAS PRINCEN

On Bramante is a dense, rich, strange, and provocative book. Written in Italian and translated into English before the Italian edition has been released, the book runs to more than 205 pages of intense prose with an additional 66 pages of often-lengthy footnotes. The main text is divided into 49 sections, often short, accompanied by a set of 35 images. An additional 32 beautiful photographs of Bramante's work by Bas Princen bracket the book in a perfect symmetry of two blocks of 16. Unfortunately, these images, which were made during an excursion organized by *San Rocco* and led by Tamburelli eight years ago, receive little commentary in the text. (Full disclosure: I was one of the 70 architects on that initial 2014 bus tour around Italy in search of Bramante's work.) Princen's images highlight the proportional logic that governs the book and express the "rationalist" position of the author.

The first half of Tamburelli's book addresses that aspect of Bramante's work that the author, borrowing from Giorgio Grassi, calls "logical," while the second half addresses the aspect of his work that Tamburelli labels "political." Throughout, the reader is presented with a feast of theoretical ideas, ideological **continued on page 62**

Three Women Deans

Three women deans recently departed their posts: Eva Franch i Gilabert of the Architectural Association (AA), Lesley Lokko of the Bernard and Anne Spitzer School of Architecture at the City College of New York (CCNY), and Harriet Harriss of the Pratt School of Architecture. It's risky to write about these events as linked happenings, as the circumstances are varied enough that any generalization threatens to flatten the particulars of each context. Nevertheless, not making general observations avoids the significance of these departures and the institutional lessons that might be learned.

Prior reporting in *AN* about Franch i Gilabert, Lokko, and Harriss, in chronological order, among other publications, established the facts of each dean's situation. The departures are very different personally—especially along the fired/resigned axis—and institutionally: The AA is private, tuition-driven, and a **continued on page 10**

AN FOCUS

Technology

The latest in software and solar, plus a Tech+ preview. Read on page 41.



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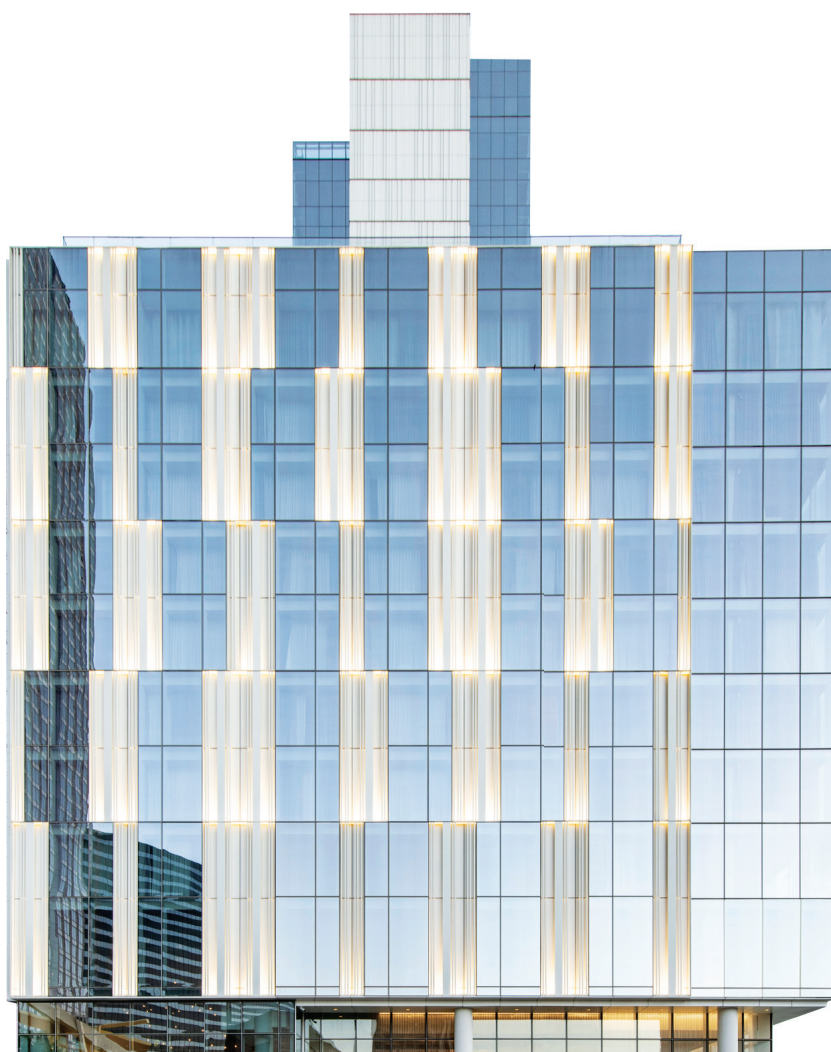
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Unreal Reality



Last month at the Getty Center in Los Angeles, I saw *Cy Twombly: Making Past Present*, an exhibition that explores the painter’s relationship with ancient Greece and Rome. In the galleries, several Twombly paintings and sculptures that directly reference classical civilization were arrayed with the antique statuary and furniture he collected, as well as photos of the apartment in Rome where he lived with his wife. The wall text stated that Twombly shunned the centers of the modern art world, of which he was a part, in favor of antiquarian surrounds and artifacts—broken monuments, fragments of poetry, carved stones so worn they are nearly indecipherable. He drew inspiration from these things and sought to channel their power in new works that invoke them not so much as they were, but as they are—nearly erased and yet aglow with vitality, speaking across the ages in a mysterious voice that pierces the heart even as one gropes for its meaning.

The Getty was a fitting place to see this work, as it is an architectural equivalent, though by necessity one of much higher resolution and clearer intent (it’s architecture, not art). Richard Meier practiced a sort of metempsychosis with Hadrian’s Villa, with Brentwood Heights standing in for the hills of Tivoli, which it does very well. The buildings’ uncompromisingly modern forms—unmistakably 1980s Meier—encompass a series of gardens and terraces (not without their own controversy) that offer sweeping, if hazy views of the Los Angelean Campagna, from the spires of downtown to the surf crashing on the Pacific beaches. The luxurious Roman travertine cladding handles the daylight brilliantly, making the structures glow softly and creating a sort of Vaseline lens effect when you look directly at them. The impression is not so much that of a Roman ruin, but of a 20th-century Rome as imagined on *Star Trek* (e.g. “Bread and Circuses,” season 2, episode 25, 1968).

(Meier himself conjured the decadence of Rome perhaps too much in his office culture. In 2018, five women accused him of sexual harassment, including one female staffer who he allegedly summoned to his apartment on a work errand only to surprise her in a blue terrycloth toga—er, robe—carelessly left hanging open. The Pritzker Prize winner retired three years later at the age of 86.)

The Getty celebrates its 25th anniversary this year. (AIA 25-Year Award, anyone?) It opened to the public in 1997, 13 years after Meier first received the commission. In his review in *The New York Times*, Herbert Muschamp called it “Los Angeles’s stupendous new castle of classical beauty.” He went on to characterize it as “an old-fashioned museum, housed within a scrupulously modern set of

buildings, pitched high above a city that has seldom shown a strong inclination to shoulder the weight of cultural memory.” Indeed, the city, like the entertainment industry that calls it home, glorifies history collapsing upon itself, its fabric unfolding in a gleefully anachronistic pastiche that makes fair game of any cultural precedent, of this earth or beyond it. Here, cultural memory doesn’t have weight, but lightness, which is not to say that people don’t take it seriously (see p. 32).

It’s no wonder that Philip K. Dick set the bulk of *Radio Free Albemuth* (written in 1976 but only published posthumously in 1985) in L.A. In the novel, the narrator realizes that the Roman Empire never ended, the tyrannical American president Ferris Freemont (modeled on Joseph McCarthy and Richard Nixon and presaging Donald Trump) is in fact Caesar, and his legionnaires are out to get Dick and his hippie friends, who are in fact early Christians in communication with God by way of an alien satellite. (Dick reshaped the tale into the *VALIS* trilogy). It’s almost as far out as the actions of a real-life, Angeleno architect (see p. 38).

But just when L.A. seems totally unreal, reality strikes. This is California. There are earthquakes. It burns—a lot (see p. 36). The unhoused are legion: more than 66,000 occupied L.A., as of 2020 (see p. 34). The Getty Center is at once the Greco-Roman fever dream of a priapic modern architect, and a clear-eyed fortress against harsh realities, against time itself. Set up high in the Santa Monica Mountains above the San Diego Freeway, it is inaccessible to the great unwashed. In 2017, the Skirball fire engulfed the site, but the burly HVAC system pushed air out of the buildings, preventing smoke from seeping in, while the cordon sanitaire of the landscaping was kept wet with water held in large tanks, staving off the flames. The museum reopened two days after the fire caused it to close.

The Getty is also a world-class leader in earthquake protection, so the galleries are replete with anchor points to secure artworks, and the ancient sculptures are set on pedestals that double as seismic isolators. This fixity keeps them from toppling and acquiring more chips and breaks like the ones they acquired during previous earthquakes back in the Mediterranean, when they were younger and fully formed and explicit about what they meant. **Aaron Seward**

Cy Twombly: Making Past Present is on view at the Getty until October 30 before it moves to the Boston Museum of Fine Arts where it will be installed from January 14 to May 7, 2023.

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Corrections

At *Reset*, Block Party, in addition to being led by Irene Cheng and David Gissen, was also led by Brett Snyder; Re: Play was a collective effort led by Deborah Gans.

Framework, a mass-timber high-rise, was to use mass plywood, not cross-laminated timber.

Anyeley Hallová lived in Nigeria as a child, not during her teens.

In addition to an office in Kansas City, Missouri, El Dorado maintains an office in Portland, Oregon.

At the Betances, designed by COOKFOX, the windows are triple glazed, not double glazed.

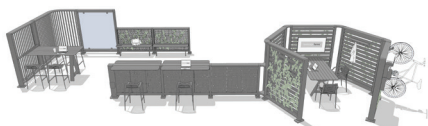
The photo that appeared on page 40 was from Michael Grimm Photography.

The comment that No. 33 Park Row possesses a “suave European elegance” was made by realtor Leonard Steinberg, not Simon Davis, associate partner at RSHP.

On page 66, the left-hand images depict a version of PAU’s Goldilocks framework in Queens, New York, while the right-hand images imagine it in Kolkata, India.

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6 Open

Black and Tan

Future Firm designs a stylish eatery for Chicago's South Side Bronzeville neighborhood.



DANIEL KELLEGHAN

Bronzeville Winery is a stylish, welcoming fine dining space in the South Side Chicago neighborhood from which it derives its name. Owned by Eric Williams and hospitality guru Cecilia Cuff, the winery offers its patrons carefully chosen beers and cocktails, a vegan- and sharing-friendly dining menu, and, of course, a wide-ranging wine selection curated by Chicago sommelier Derrick Westbrook. The libations are presented against a contemporary interior designed by local architecture practice Future Firm, which specializes in community, cultural, and commercial spaces, primarily on the South Side.

The winery is Future Firm's first foray into restaurant design. Firm principals Ann Lui and Craig Reschke connected with Eric Williams in 2020 when they were commissioned to design The Silver Room, his Hyde Park multi-use collaboration and event space. Continuing the ethos of uplifting emerging South Side artists was key to the design motivation of Bronzeville Winery, which was designed to be a space where everyone feels welcome and creativity thrives. The long, narrow dining room is open and streamlined. The blond-wood and matte-black palette is minimal, providing an ideal backdrop for exhibiting art without defaulting to gallery white. A feature wall of wooden shelving showcases bottles of wine interspersed with photographs, paintings, and collages created by local artists. It is lit by custom pendants, designed by Chicago artist Lucy Slivinski, and a glass storefront, which opens to a patio. Patrons are presented

with their watermelon steak (the most recommended menu item), locally grown herb salad, and wine of their choice at wooden tables while they sit in flexible chairs—tan and black, respectively—designed and manufactured in Chicago by Titobi Studios (a collaboration between Norman Teague Design Studios and Max Davis).

With an emphasis on showcasing the creative work of others, Future Firm attributes the success of the project, in part, to its invisibility. An anchor tenant in the new 4400 Grove complex on bustling Cottage Grove Avenue, the winery was designed as an homage to process-driven results, rather than static architectural conditions. "The way to honor Bronzeville and the South Side in this project was about supporting the people who are making a new creative legacy for the neighborhood in their own way," Lui said. "It's an aesthetic that represents that without pulling from, say, a historic brick detail or something that may be overtly architectural."

Bronzeville Winery utilizes architecture to connect its patrons to a burgeoning legacy of South Side artistry, rather than as a means to an end. Through flights of wine from Black-owned vineyards (choose from a range of moods, from tropical and enchanting to herbaceous and mysterious), the immersive experience is both accessible and elevated, ensuring its success and longevity in the neighborhood for which it is named.

Alaina Griffin is a regular contributor to AN.

News

A Bash in Budapest

Archicad developer Graphisoft turns 40 and expands product offerings, support.

In the warm night sky above Budapest, a fleet of drones spelled "GRAPHISOFT" as the software company celebrated its 40th anniversary. At Graphisoft Park—the company's headquarters in Buda—attendees gathered outside with Aperol spritzes before CEO Huw Roberts took the stage. Roberts was joined by founder Gábor Bojár and chairman of the board and former CEO Viktor Várkonyi as images from the company's 40-year history shuffled on-screen behind them. Before the cake was cut, guests were given a preview of the company's strategic road map.

Graphisoft's anniversary was not the only thing worth celebrating. The company also launched Archicad 26, the new version of its premier building information modeling (BIM) product. Focusing on giving designers more time to design—rather than getting bogged down in handling tricky aspects of the software itself—Graphisoft's aim is a more streamlined product.

Graphisoft also released updates for additional programs, including improvements for Graphisoft Learn and Graphisoft Community. Through Graphisoft Learn, an online learning platform, the company now offers courses that users can take at their own pace, providing training for modeling, documentation, and BIM workflows. Rather than leave users to wade through YouTube tutorials for their software—as is standard with some platforms—Graphisoft aims to direct users to its in-house training, which would ensure a sufficient level of instruction. Graphisoft Community, the go-to platform for users to troubleshoot for the entire range of the company's products, has been revamped to include articles outlining Archicad 26, and a centralized site for events, services, and other useful information for users.

Graphisoft product marketing manager Carlos Cordeiro said that the enhancements to the company's training platforms were in response to market needs; the company wanted to provide high-quality training for Graphisoft products and decided to direct that in-house.

As Cordeiro explained, Graphisoft's goal with its product enhancements is not to simply jump on the latest trends, but to ensure that updates are done thoroughly. This includes improvements to Archicad 26 that address the growing demand—and environmental need—to be able to tabulate data that tracks, for example, embodied carbon. On this front, Graphisoft does not want to be a "checklist company," Cordeiro told AN, "but to do things in a way that really delivers value." Graphisoft's software now includes environmental properties for building materials, initially based on an Austrian database, which will eventually be tailored to the company's 28 localized versions of Archicad.

Looking forward, the company's road map is expanding from this year's slogan of Stay Focused, Design More to Choice Consideration in 2023, Scale at Speed in 2024, and Analytics for Performance in 2025. In advance of this trajectory, one exciting, and more specific, potential came earlier this year. Graphisoft's merger with DDScad brings mechanical, electrical, and plumbing (MEP) design capabilities to Graphisoft clients. The software allows for smoother project integration between designers working on MEP systems and Archicad users. While the software is, for the time being, primarily used within Central Europe, this model of providing better workflows for all aspects of building design could have a wider appeal. At Archicad 26's launch event, Roberts said that the goal of integration was not to have a large collection of features that overwhelm users, but to offer products that fit specific needs of a growing user base. While making the company's platforms easy to use for designers and offering tools for more complex projects are explicit targets for Graphisoft, this still comes at a time when there is a growing need for architects to be able to leverage design software to address grave climate concerns. Graphisoft sees this as complementary to its goals. As Cordeiro told AN, "sustainability is not a buzzword. It is a social responsibility." **Chris Walton**



COURTESY GRAPHISOFT

Jaque of All Trades

Andrés Jaque announced as new dean of Columbia GSAPP.



COURTESY COLUMBIA GSAPP

Andrés Jaque, an architect, a curator, and an artist who currently serves as an associate professor at Columbia University's Graduate School of Architecture, Planning and Preservation (GSAPP), has been appointed dean. Jaque's deanship began on September 1.

Jaque, who leads GSAPP's master of science program in advanced architectural design, replaced WORKac cofounder Amale Andraos.

Andraos announced in May 2021 that she would be stepping down from the role with her term ending at the end of last year. Weiping Wu stepped in as interim dean following the departure of Andraos, who had served as dean beginning in 2014. Andraos vacated the role to serve as a special adviser to Columbia University president Lee C. Bollinger with a focus on the Columbia Climate School.

News of Jaque's appointment was shared with the GSAPP community via a letter from Bollinger, who noted that Jaque, who first joined the school in 2013, "has become beloved by his colleagues and demonstrated deep commitment to the success of the institution and its students and alumni. He will steward GSAPP to even greater heights, and I am grateful to him for agreeing to take on this role."

In addition to his decade-plus-long professorship at GSAPP, Jaque is founder of Office for Political Innovation, a transdisciplinary design firm based in New York and his native Madrid. Jaque's work with Office of Political Innovation has garnered international acclaim; among his illustrious accolades are the Frederick Kiesler

Prize for Architecture and the Arts, the Silver Lion for Best Research Project at the 14th Venice Biennale, and the Dionisio Hernández Gil Prize. Jaque has also served in several curatorial roles, including chief curator of the 13th Shanghai Biennale, Bodies of Water.

Jaque also served as a member of the jury for the 2018 AN Best of Design Awards.

"The world is radically evolving, and GSAPP is known for leading change and for mobilizing our disciplines to reinvent societies, environments, politics, and technologies in order to address the challenges of our times," said Jaque in a statement. "Building on the School's strong legacy established by my predecessors and the faculty at large, I look forward to further intensifying GSAPP's role in pushing the disciplinary boundaries of our fields to challenge structural forms of domain, and to redefine the demands of the future." **Matt Hickman**

[Read more at archpaper.com](https://www.archpaper.com)

Saving Safdie

Moshe Safdie donates his professional archive and Habitat 67 apartment to McGill University.

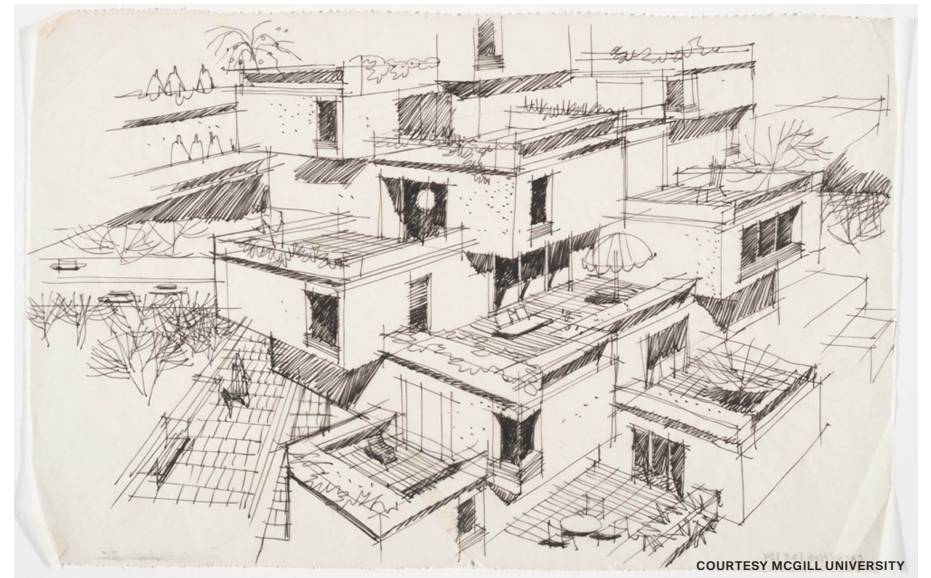
Over 100,000 archival items produced by Israeli-Canadian architect Moshe Safdie during his illustrious 50-year career, including sketches, models, drawings, and letters, will be donated to McGill University in Montreal, the architect's alma mater. The "center-piece" of the collection is Safdie's personal apartment at his iconic Habitat 67 housing complex in Montreal.

Donated pieces document both unbuilt and realized projects by Safdie, who founded his eponymous firm, Safdie Architects, in

1964. The gift will allow students, researchers, and architects to study Safdie's work.

"I have always valued the great education I received at McGill that has guided me through my professional life," Safdie said in a statement published by the university. "Moreover, Canada has embraced and supported me, making possible the realization of several seminal projects. It is therefore fitting that McGill, Quebec, and Canada will be the home of my life's work."

Kristine Klein



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Making Delta Waves

Construction kicks off on Duvall Decker’s new U.S. courthouse in Greenville, Mississippi.

On August 26, a new federal courthouse broke ground in Greenville, Mississippi. Serving the needs of the Northern District of Mississippi’s Fifth Circuit, it replaces an aging 1959 federal courthouse facility on nearby Main Street.

Spanning three stories and roughly 55,600 square feet, the forthcoming facility is a secure yet transparent civic landmark built to “provide visual testimony to the dignity, enterprise, vigor, and stability of the American government,” to quote the late senator, scholar, and federal courthouse eponym Daniel Patrick Moynihan. A project of the U.S. General Services Administration’s (GSA) Design Excellence Program that’s helmed by Jackson, Mississippi-based architectural practice Duvall Decker, the Greenville U.S. courthouse is also a distinctly Southern construction with an interior illuminated by indirect “porch” light and wrapped in fluted concrete panels that shield the building from heat, humidity, and torrential rains. Outside, a parklike landscape with ample, well-shaded seating will offer a leisurely place of respite to visitors and workers when the weather allows.

Adjoining a long, low-slung office block populated by various tenant agencies, the building has two courtrooms which are stacked, clad in wood, and “visible and veiled by a faceted glass outer skin that is alive in the ever-changing light and weather of each day,” Duvall Decker explained in a



The new courthouse will be transparent yet shielded from the often-harsh Delta weather.

project overview. “The presence of the court becomes part of the community and opens an ongoing public conversation on the nature and workings of justice.”

“The design of the U.S. courthouse in Greenville, Mississippi, is a search for meaning and public good,” elaborated Roy Decker, who serves as cofounding principal of Duvall Decker alongside Anne Marie Duvall. “Building designs are expected to meet many requirements for functionality, safety and health, sustainability, durability, and economy. However, certain public structures that aspire to serve our society and represent our culture must do more. They must strive to be meaningful, promote in-

quiry, and serve as teachers to future generations. Duvall Decker is honored to lead the architectural design of the project.”

Joining Decker as co-lead designer is Steve Dumez of New Orleans-based Eskew-DumezRipple, along with a larger team of Dewberry with Michael LeBoeuf, Engineering Resource Group, Walter P. Moore, Newcomb & Boyd, W. L. Burle Engineers, Andropogon, and M.A.+ Associates. Michael Fazio, an architectural historian and longtime professor at Mississippi State University’s College of Architecture, Art, and Design, contributed before passing away in 2020. Robins & Morton serves as the build’s general contractor.

As part of the GSA’s Art in Architecture

Program, Critz Campbell, a Mississippi-born artist and head of the MSU Art Department, will create an artwork for the lobby.

Like other GSA efforts, the Greenville U.S. courthouse project has been slow-moving, spanning several years prior to its groundbreaking. In this case, the proverbial ball first got rolling in 2015 with design work commencing at the top of 2018 and wrapping up in June 2021 per a GSA project timeline. The construction contract was awarded just this past April.

Today, Greenville is relatively liberal and predominantly Black and is known for its history of cultural diversity, as numerous immigrant populations settled in and around the bustling inland port city after the Civil War. As Duvall Decker elaborated, this diversity, joined by what it called the “inequities of the living circumstances of the Delta, the racial, social, and economic changes that surfaced in the 1950s and ’60s,” has led the U.S. court in Greenville to “issue decisions that have helped shape the country at large,” including rulings regarding civil rights, prison reform, and school segregation.

“The architecture of the new U.S. Courthouse in Greenville honors this history and diversity with a respectful but contemporary expression and an open, inclusive form,” added the firm.

Completion of the U.S. courthouse is slated for fall of 2024. **MH**



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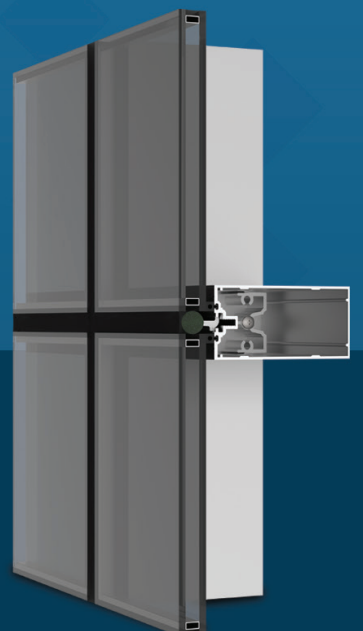
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10 Comment

Three Women Deans

Recent academic departures offer lessons about how architectural education should change.



STEFAN RUIZ



COURTESY BERNARD AND ANNE SPITZER SCHOOL OF ARCHITECTURE



MORLEY VON STERNBERG

Eva Franch i Gilabert (left), Lesley Lokko (center), and Harriet Harriss (right)

continued from cover school unto itself; CCNY is a public institution in a large university system and dependent on state money and state sanctioning; Pratt is a school in a codependent administrative and financial relationship with its larger art institute. Still, these departures have commonalities that need to be examined. (Full disclosure: In 2007, I left my job as head of architecture and planning at the University of Auckland after six months in the role when I realized that I was supposed to move papers from the left side of my desk to the right side of my desk instead of doing what I thought I was hired for—revitalizing a flagging school.)

First, and not surprisingly, is the fact that these departures were procedurally controversial. Franch i Gilabert's vote of no confidence occurred via an early-pandemic Zoom meeting that caught students and AA community members off guard; procedures were seemingly made up in real time as they went along. Lokko's resignation left the school stunned and unable to publicly digest the accusations of racism, overwork, and lack of support. Harriss's "stepping down," while couched in the language of personal choice, is a highly negotiated exit summary masking fears of lawsuits regarding discrimination against women. Architectural academia doesn't often witness men exiting in such quick turmoil.

The pandemic's role in these situations should be emphasized. The need to provide a virtual education that satisfied both faculty and students with no road map was—and is—overwhelming. It was extremely tough on all academics at the time, but particularly hard on those who, like Franch i Gilabert, Lokko, and Harriss, new in their positions, lacked institutional knowledge or an established trust with school administrators. Wherever one's sympathies lie, these three deans didn't receive adequate support.

Another commonality is their attractiveness as hires: They were—and are—stars. Announcements about their hiring were met with cheers in the belief that, finally, agents of change had been installed (and these schools could then show off the significance of this change). Each came with a reputation for exceptional vision, but the trope of exceptionalism works awkwardly with women. It allows women to compete in a system constructed by men in which bravado is valued, but it also sets in motion the performance of bold, top-down leadership that the institutions want and the leaders adopt—a perfor-

mance that, while expected, is nevertheless at odds with the horizontality of leadership assumed to come with women in charge. Imperiousness is met with resistance precisely because it was assumed to have vanished. The "star" quickly becomes "the other."

These deans were "others" in various senses. Each came from countries outside their institution: Franch i Gilabert joined the AA from the United States, where she had directed New York's Storefront for Art and Architecture; as a European she was not unfamiliar with Continent architectural education, but being Spanish didn't make her Anglo-Saxon. Lokko had worked in the U.S. but built her career largely in the United Kingdom and Africa. Harriss had briefly held teaching roles in the U.S. but joined Pratt from the U.K., where she had led the postgraduate research program in architecture and interior design at the Royal College of Art in London.

All three assumed their administrative positions via reputations built on work outside of traditional academia. The Storefront for Art and Architecture is an institution explicitly aimed at filling in the gaps in conventional architectural culture. Lokko's reputation largely stemmed from her creation of the Graduate School of Architecture at the University of Johannesburg, an activist, non-European, Africa-centric entity. Prior to joining Pratt in 2019, Harriss developed a reputation based on her critiques of the profession, her leadership in unionizing architects in the U.K., and her profile as a radical feminist. These othernesses were not unrecognized by the institutions that hired them; they sought leaders with a fresh approach to education. But when these characteristics were applied to institutions unprepared for the internal structural change invited by these leaders, they became problems.

All three also assumed positions previously occupied by men whose legacies needed to be undone, even as those legacies remained models of "success" for their schools. It is unfair to link George Ranalli, Brett Steele, and Tom Hanrahan closely because they had distinct leadership styles, but they nevertheless represent three performances of maleness. Brought in to counter these examples—Franch i Gilabert arrived with a more politically engaged agenda than Steele's, Lokko with goals that didn't center white male practicing architects, and Harriss with a collaborative and staff-empowering

vision—these alternative visions that come from not being men and not being part of the club were ultimately not actually wanted or their implications were not fully understood. Out went feminist leadership.

The women, in other words, entered a system that was ripe for their failure. As such, their fates offer a mirror for our architectural academic institutions, one that evidences a reality architecture has been happy to ignore for too long.

First: Our academies are "corporate" in nature. The term is not a description of administrative style but, rather, an ontological fact. In a nonprofit corporation, power lies primarily with the legally required board. Board members tend to prize a version of the school's "essence" that was formed in the past and must be preserved for the future; such inclinations are inherently conservative. Likewise, the role of the board is to monitor management, meaning that leaders are evaluated less on their "vision" than on their skills as managers whose role is to stop problems before they rise to the next administrative level. Thus, directors who think that their role is to speak for those under them, thereby raising problems, are not "good managers." The financial precarity that almost all architecture schools—and certainly the ones interrogated here—are experiencing makes management even harder. While higher education everywhere is subject to the loss of financial support caused by market-driven governmental policies and university policies attuned to income-generating grants, architecture programs are particularly on the chopping block for their "unsustainable" low student-teacher ratios and their inefficient use of real estate. In such a context, leaders who attempt change—rather than running the same established program—risk institutional downsizing and are therefore exposed.

Second: The disarray of our discipline is also on display. We're exposed owing to our irrelevance in the face of environmental, habitation, and land-stewardship crises; our self-consciousness about architecture's role in unsavory urban development; and our proliferation of a mode of instruction that is biased, sexist, and self-interested. The problems at SCI-Arc and the Bartlett are examples of prestigious schools shaken by controversy in the face of cultural and political change.

This disarray also affects our professional realms. Architecture publications like this one now regularly cover how our disci-

plinary seams are coming unraveled. Many not-for-profits like the Architectural League and the Center for Architecture in New York City are on the side of change, and activist groups like Dark Matter University, ArchitectureXX, and The Architecture Lobby are envisioning a more powerful, fair, and effective profession. If only NAAB, NCARB, and the AIA could get the message.

The combined problem of corporate risk aversion and disciplinary insecurity yields an academic context particularly incapable of the change needed to address a built environment—and a discipline—in crisis. No wonder these three women "got it wrong"—*the whole thing is wrong*.

There is good news, as the vacated positions have been filled with people who continue efforts of reform. Ingrid Schröder, formerly the head of design teaching and director of the MPhil in architecture and urban design at the University of Cambridge Department of Architecture, is now the director at the AA; Marta Gutman, an impassioned worker rights advocate, advanced from acting dean to dean at CCNY; and, at Pratt, Quilian Riano, a Latino educator devoted to disciplinary change, is serving as interim dean. The fact that two of these positions were filled by insiders, Gutman and Riano, and the third is well-known in London-centric academia is not surprising; in moments like this, outside hires are neither safe nor prudent.

All three women remain successful: Franch i Gilabert is working with the City of Barcelona to create Model, a new space for experimental architecture, and is working with students from the Academy of Arts, Architecture and Design in Prague to create the Future Architecture Platform. Lokko returned to Accra, Ghana, in 2021 and established the African Futures Institute, a postgraduate school of architecture and public events platform, and is curating the 2023 Venice Architecture Biennale, which will envision Africa as the laboratory of the future. Harriss is currently finishing two books—*100 Women Architects* and *Architectural Pedagogies of the Global South*—and is completing a €500,000 Erasmus grant that examines the multisector impact of an architectural degree.

There are other scholastic signs of life. Ana Miljački, associate professor at MIT, centered important change through guest editing Log 54 on the theme "Coauthoring" with Ann Lui and, with Jay Cephas and Igor Marjanović, issue 76.2 of the *Journal of Architectural Education*, with the theme "Pedagogies for a Broken World." The Architecture Lobby, of which I am a member, recently produced the virtual Architecture Beyond Capitalism summer school, which operated outside systems of (expensive) institutional matriculation, academic accreditation, and professional licensure and imagined an educational experience that gathers international students, educators, and workers for social, environmental, and institutional engagement. Still more initiatives could be shared to evidence shifting tides.

The three departures addressed here mark three moments of reckoning. What matters is what happens next. We should check in two years from now to see whether architectural educators have risen to the occasion.

Peggy Deamer is a professor emerita at Yale University's School of Architecture and principal of Deamer Studio.

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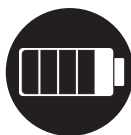
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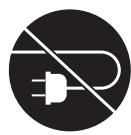
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Upward, with Form and Policy

IIT and CTBUH launch new tall-buildings degree programs.



An output from the “The Remaking of Mumbai” studio: The final scheme showcases each student group working on a different tower within the collective urban vision.

Antony Wood, president of the Council on Tall Buildings and Urban Habitat (CTBUH), begins just about every speech he delivers with “Ninety-five percent of tall buildings are crap; they should have never been built.”

That is why he started a new degree program at the Illinois Institute of Technology’s (IIT) architecture school. He said the program will be a revisionist and critical examination of the role tall buildings should play in an era of cataclysmic climate change and epochal urban migration. “This is not a rah-rah-rah tall-buildings program,” he told *AN*.

The millions of people pouring into cities, displacement pressure resulting from climate change, and the broader collective lifestyle and sustainability benefits of density “portend a future with many tall buildings,” said Reed Kroloff, dean of IIT’s College of Architecture.

But today, tall buildings are most often pure “commercial containers” for one-dimensional market exchanges or a “piece of ridiculous sculpture”—superficial iconography with no relation to the city, said Wood. And these types of high-rises seldom serve the people experiencing the precarity and deprivation that tall buildings can address.

Wood (the new program’s director) and Kroloff will be trading on IIT’s historic legacy as a hotbed of high-rise research and design, from the architecture school’s early embrace of Mies van der Rohe, who developed some of the earliest glass-and-steel high-rises in the world, to the super-tall innovations of Fazlur Khan and Bruce

Graham, who collaborated on the bundled tube structures (researched at IIT) that pushed skyscrapers ever higher with greater and greater material economy. “There’s no other school that has the expertise to deliver this kind of education like IIT,” said Kroloff.

Classes begin this fall, and two nonprofessional degrees will be offered: a master of tall buildings and vertical urbanism and a master of science in architecture. The former is open to anyone with a bachelor’s degree, and the latter is available to anyone with an undergraduate architecture degree, and both degrees consist of two semesters of coursework. The degrees emphasize design and research and are organized around design studios, technology, research methodology, and seminars that address the cultural, historical, design, and built context of tall buildings. Students will get access to internship opportunities that are “not available to anybody else,” said Kroloff. “They’ve been specifically created for this program.”

Though the program emanates from an architecture school, it aims to attract students with backgrounds in all the professions involved in the creation of tall buildings: architecture, real estate, engineering, construction, business, and finance. Altogether, it’s the first multidisciplinary advanced degree program focused specifically on the high-rise. Research topics for students to address include materials like mass timber, structural technologies, the integration of vegetation, sky bridges, and new finance models.

Still, the program’s commitment to a single typology and emphasis on technology create reasons to suspect that tall buildings are the most direct route to a sustainable and dignified future for humankind. By shepherding an ambitious series of Green New Deal design studios through nearly 100 universities over the past several years, Billy Fleming, director of the McHarg Center for Urbanism and Ecology at the University of Pennsylvania, is well-known for connecting pedagogy to the realities of policy and political economy. He told *AN* that the density derived from tall buildings is an “insufficient means of achieving any climate [and] social justice goals.”

Research from the *International Journal of Urban and Regional Research* indicates that the sustainability and induced carbon emissions of a development are determined less by the density of what’s built and more by the consumption habits of the population that lives there. And in many parts of the world, high-rises are built for and attract high-income people with consumption rates that entail much higher carbon emissions.

Policy determines how high-rises are built and who can access them, so the “risk is always that this kind of program, which is focused on technology, becomes viewed as a plug-and-play fix to the climate crisis,” said Fleming. Truly reassessing how tall buildings function is “less about structural engineering and more about how the political economy of the built environment works.”

Wood said that his nearly two decades of work with the CTBUH have brought him to the same conclusion. “I’ve been doing this for 16 years, and [the architects] agree,” he said. “But it has no impact, because the people that need to hear this message are the policy makers. It’s all about policy.” As the program matures, he hopes to attract a student body that can fine-tune policy recommendations and situate tall buildings within real-world constraints as expertly as formalists tinker with proportion and detailing and technological innovations alter performance and structural regimes. “The tall building needs to be a part of the city, including its infrastructure—parks, sidewalks—flipped vertically and connected,” said Wood.

“High-rises are not the only solution to the challenges of rapid urbanization,” Kroloff said. “They are part of the solution, and an important part of the solution. We would like to develop this program to make sure that this building type is steered toward, as often as possible, innovations that benefit people of every economic level and that make these buildings more environmentally sensitive and sustainable. How can we make tall buildings a tool to help alleviate economic hardship rather than becoming a defining example of why there is that hardship?”

Zach Mortice is a Chicago-based design journalist and critic, focused on architecture and landscape architecture’s relationship to public policy.

Better than a Poop Emoji?

Chicago's Big Tech architectural marvel is an adaptive reuse win, but it could be a loss for the public.

continued from cover Illinois offices, the JRTC, with its grand rotunda atrium and salmon-pink/sky-blue color scheme, has amassed a cultlike devotion within the international architecture community thanks to its postmodern style. Furthermore, the building's public spaces have endeared it to much of Chicago's general public: The oculus views are breathtaking, but the interior courtyard has long hosted pop-up vendors from small independent businesses, and a hefty Chicago Transit Authority hub occupies much of the building's north facade and underground areas. As it is a public building, protests held outside have benefited from First Amendment protections without filing for permits, and with a below-grade food court, public bathrooms, and a large outdoor plaza for lunches, public life has arguably become the building's muscle.

The JRTC's most prominent "Big and Loud" features, outside of its spectacular presence, are its spectacular failures: The curved glass facade and inefficient heating and cooling systems left state employees working in a greenhouse during the summer or a chiller in the winter, and a granite panel fell from the building's pedestrian arcade in 2009. Citing its high operating costs, maintenance issues, and the state's budgetary challenges, the state moved to sell the building in 2015, prompting preservationists to campaign for its survival.

Landmarks Illinois launched its own campaign to save the JRTC, placing the building on its Most Endangered Historic Places list in 2017, 2018, 2019, and 2021. In collaboration with Preservation Futures, an organization founded around the Thompson Center's potential demolition, Landmarks Illinois has prepared a nomination for the National Register. (Elizabeth Blasius, one of Preservation Futures' founders, was previously a Midwest editor for *AN*.) Only last year did the state successfully find a buyer, JRTC Holdings, LLC, which agreed to preserve and adapt the building to the needs of modern tenants. Later, it was announced that Google and JRTC Holdings entered into a build-to-suit agreement for the redevelopment of the building, which Google intends to occupy upon completion of the renovation. Jahn/, though without Jahn himself, who died last year, will again be the project architect.

While the sale and subsequent occupancy announcement provoked a sigh of relief among many of the architecture aficionados who have championed the building's preservation, much remains to be revealed, particularly how Google plans to embrace—or axe—the building's public spaces. As critics like Kate Wagner address,

Big Tech isn't known for embracing the public.

Consumption, however, is a main feature of the JRTC—particularly in its celebrated food court. The Sbarro Urbanists, a group of Thompson Center superfans who regularly meet for Sbarro pizza in the food court, recently held their last group gathering before the building closes for construction.

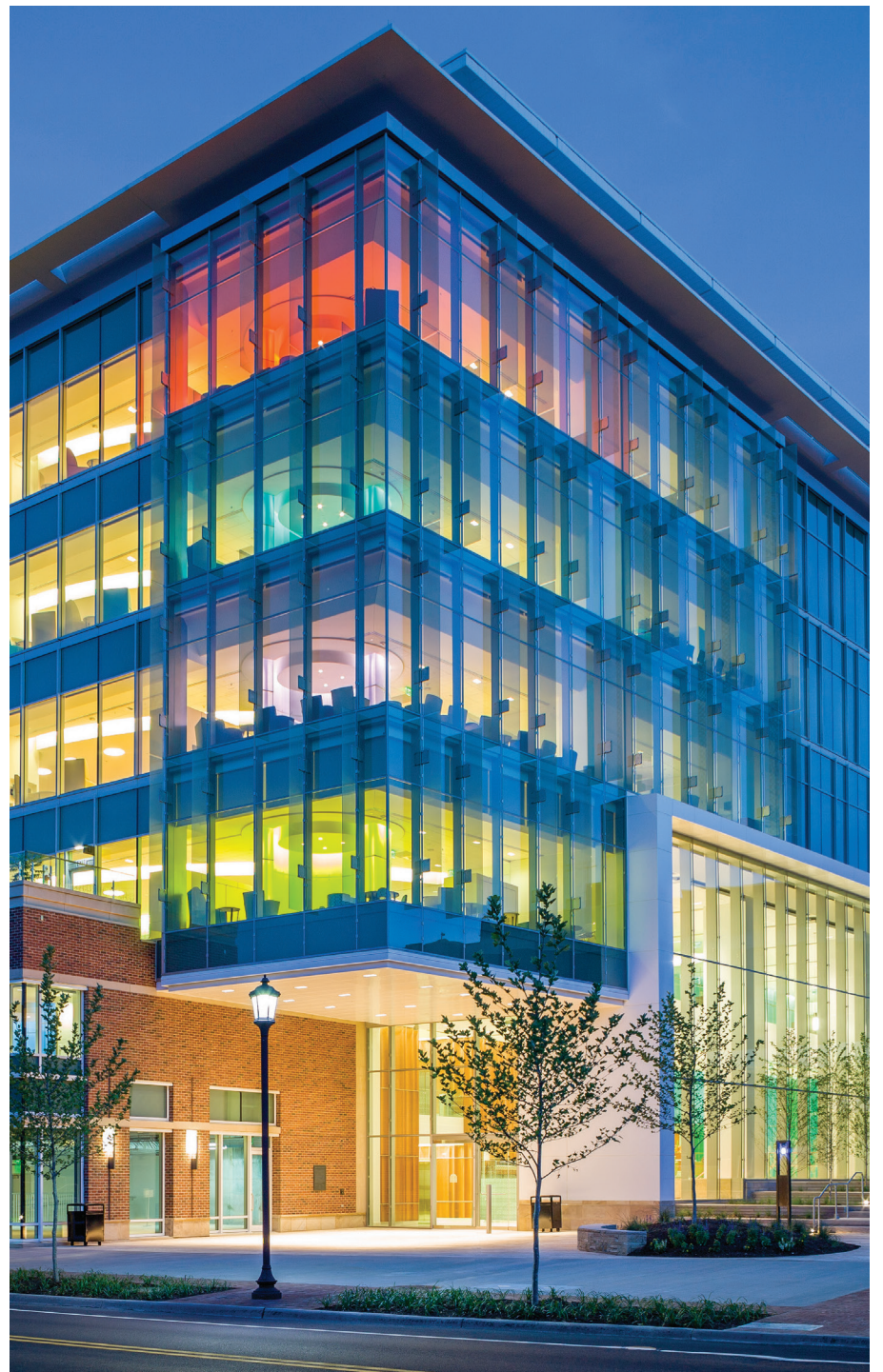
"As optimistic as I think a lot of us are about what's going to happen with that project, there are no guarantees about public space. There's no guarantee about whether the food court will be something that anyone other than Google employees can access in the future," Sbarro Meet Up organizer and architecture photographer Eric Allix Rogers told *AN*. "I think if you ask anybody here, you'll find that they would like those things to remain as kind of civic spaces, or at least commercial spaces."

"We just don't have a lot of spaces like this. If you want to spend time inside and just relax in this country, you have to do it in a car. And that's one of the things I thought was really cool about this place is if you're waiting for a train, you do it indoors, and you can get food," added Sbarro attendee and software developer Aoife Fahey.

While Jahn/ could not comment on its plans for the future of the building's public spaces, nor on the overall design itself, Bonnie McDonald, executive director of Landmarks Illinois, still has some hope. "The Thompson Center has also been a gathering place for protest, transit, commerce, and more within one of our city's most inspirational indoor and outdoor public spaces," she said. "We want to see continued public access to these spaces when it is converted to private use."

While Big Tech can celebrate yet another architectural statement headquarters and preservationists can celebrate a major win for an often-squandered architectural heritage, those who have relied on the JRTC for its public access may be left out in the cold. In some ways it feels perhaps more egregious than the glass excreta under construction in Arlington; here, our masterpieces built for the public good are sold off to Google, a company with a history of urbanist ambitions laced with questionable privacy practices. Until Jahn/ reveals its final renderings, we'll just have to remember the JRTC for what it was: an egalitarian postmodern palace.

Anjulie Rao is a Chicago-based critic and journalist covering the built environment.



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14 Comment

Cop Academy

An expanded scope for a training facility in Chicago raises questions about how—and if—architects should engage with carceral projects.



BERGLUND/BROWN & MOMEN JV

Who is the city for? This is the most urgent question in modern urban life. It's also one that we ask with increasing frequency in the face of rising rents, inflation, gentrification, racist police brutality, increased surveillance, and more. Deceptively simple, one might answer: "The city is for people, regardless of gender, age, race, class, and ability. It is for all of us." But if you look at Chicago, you will see that this is not the case.

Instead, it seems as if the city exists for cops. In 2020, the City of Chicago spent nearly \$1.8 billion—37 percent of its annual operating budget—on police. That's \$5 million per day spent on policing. More is spent on police than on community services, infrastructure, elections, and pensions.

Meanwhile, the public school system in Chicago is continually gutted, rents are rising, displacement has revved back into action postpandemic, the transit system is barely usable, and Chicago still isn't a safe place to bike, walk, or, for many communities, live. Crime, contrary to police propaganda, still happens, and statistics show that increased hiring hasn't done anything to slow that down. After all, cops spend only 4 percent of their time responding to violent crimes like rape, murder, and assault, and those cases they do investigate rarely end up being solved.

Amid these conditions, a change was announced earlier this month to the construction of the Joint Public Safety Training Campus already underway in Austin, a majority-Black neighborhood on Chicago's West Side. The facility is meant to be used by the City's police, firefighters, and Office of Emergency Management and Communications. What was originally supposed

to be "only" a \$95 million project grew in cost to \$128 million after it was revealed that the academy will be adding a "tactical scenario village" composed of fake houses, streets, and commercial buildings, according to *Block Club Chicago*. The approval for this addition took place in September 2021 "without community input or opposition."

Yes, you read that right: Chicago is spending \$33 million to build fake housing and commercial buildings in an overpoliced community that could really use their actual, real-life equivalents. No Cop Academy organizer Destiny Ball laid it out plainly to *Block Club Chicago*: "To find out that they're building a scenario village when there are thousands of people, homeless, with nowhere to go ... it's sickening."

Architecture sometimes lays bare the contradictions in urban life, but rarely does it do so this explicitly, if not mockingly. A first phase of the training campus is nearly done, and the "tactical village" will begin construction this summer. The campus, which rises on the site of a former rail yard, will replace seven facilities currently in use. The second phase will be built by a joint venture of Berglund and Brown & Momen. The City's website lists the design architect as DLR Group. The company recently published a blog post in which Andrew Cupples defended its work on juvenile justice systems, claiming that DLR remains "undeterred in the belief that design excellence contributes to better outcomes for youth who enter the justice system."

"Justice system," to this critic, reads as a remarkable euphemism for a place to detain children. Incredibly, the City lists the project as part of Mayor Lori Lightfoot's IN-

VEST South/West platform which seeks to direct about \$1.4 billion in funding to previously underdeveloped neighborhoods.

The City neglects its citizens—especially its Black and Brown ones—before policing them with militarized tactics. This is, after all, the police force that was found to be using "black site" tactics—essentially kidnapping and torturing civilians at Homan Square, a property it owned on the West Side—until an exposé in *The Guardian* in 2015 spelled its demise. This is the police force whose officers shot 13-year-old Adam Toledo to death in 2021 and paralyzed another unidentified 13-year-old boy just a few weeks ago. These are the law enforcement officers who have made arrests in only 6 percent of rape cases. Per Alex Vitale's book *The End of Policing*, this is the police department that arrested 8,000 Black schoolchildren, more than half of whom were under 15, in 2013–4 alone.

Chicago suppresses funding for housing, schools, environmental remediation, public health, and transit, but it generously funds cops. This is not only ineffective, given the statistics and reality of police brutality, but immoral.

Any architect who participates in realizing the carceral program of police surveillance and terror is complicit. Architects often characterize their work as impartial, but the reality is that the form of the built environment is regularly weaponized by those in power. Architects are moral actors who have the agency—individually, but especially collectively—to see a project like this and decline to participate.

At times, activism comes in the form of saying yes to certain advances, but in this

case it more powerfully comes in saying no. This denial of service can come in the form of whistleblowing to journalists, organizing political resistance among your peers, or finding a new job. After George Floyd's murder in 2020, when Michael Ford (the hip-hop architect) learned that his then employer SmithGroup was to work on civic buildings with holding facilities, he left. In the fall of 2020, AIA New York attempted to discourage members from working on spaces of incarceration. The work of Colloqate explicitly demands the end of architects working on behalf of police and provides alternative solutions for reallocating police funds toward endeavors rooted in community building and racial justice.

Architecture exists at the all-important nexus where political ambition is given form. Resistance to terrible carceral projects from architectural firms matters—if no one draws the plans, the efforts stall. Sure, someone else can do it, but the broad systemic woes of capitalism don't excuse us—mere individuals—from living ethical lives. It is unethical to work on a project that will be used to oppress and terrify Chicagoans, just as it is a project of criticism to be explicit about architecture's role in surveillance, police expansion, and, by extension, urban policies that govern by force, not by support. So, to the leaders of architecture offices who are currently overseeing construction documents for a fake strip club in western Chicago, I see you. The architecture world sees you. You can and should do better than this.

Kate Wagner is an architecture critic and a journalist.

Electricity Plus Equity

A new substation in San Francisco by Tatiana Bilbao Estudio and TEF Design powers a more hopeful future for Hunters Point.

A new proposal by Mexico City-based firm Tatiana Bilbao Estudio (TBE) and San Francisco-based studio TEF Design (TEF) will overhaul the site of a former power plant in San Francisco's Hunters Point neighborhood, adding a three-story, 30,000-square-foot electricity substation and a number of public amenities.

In a remarkable improvement on an imposing industrial menace that once loomed over local residents, the three-tiered, glowing rammed earth-like structure will not only house electrical utilities but also serve as a community landmark, with a plaza and community gardens.

For Tatiana Bilbao Estudio, designing the new substation was an opportunity to continue the restorative relationship between PG&E and the local neighborhood.

Community discussions for the design of the substation began as early as 2017, when TBE and TEF worked with design consulting firm urb-in to gather feedback at community and stakeholder meetings and continued through extensive digital outreach and an online opinion survey. Tatiana Bilbao and her team were able to incorporate amenities that met the community's wants (and needs), including ample seating, areas for farmer's market stalls, an all-gender restroom, and a kiosk for food service.

This wasn't TBE's first time working on a project in Hunters Point. The firm previously designed a master plan for Hunters Point at large; the neighborhood, beyond the power plant, also supported a former naval shipyard, an operation that introduced lethal

chemicals into the soil, including asbestos. Though it went unbuilt, Bilbao said that working on the master plan was essential in how her team approached the substation. The project helped the team understand the site's complicated past. The resulting representation—drawings and models—was a major part of *Architecture from Outside In*, an exhibition of Bilbao's work recently installed at the San Francisco Museum of Modern Art.

"[The master plan] laid the groundwork for cultivating trust and a new relationship between the community and PG&E after decades of adversarial conflict," Bilbao explained. "We were able to build upon the empowerment that they brought to the community and benefit the substation through authentic collaboration with neighborhood stakeholders."

Collaborating firm TEF also has previous experience working in the area and with PG&E. The goal for the new substation to reach net-zero energy was ambitious, but by no means out of reach; TEF Design had an existing model for net-zero-energy utility infrastructure to work off of, the Larkin Substation, a nearby facility also developed for PG&E. Located about 5 miles north of the Hunters Point site, Larkin is the first electrical switchgear building in the United States targeted by the International Living Future Institute's (ILFI) Zero Energy Building Certification of the Living Building Challenge. While Larkin stands out as a technical feat, TEF also made sure not to neglect architectural and aesthetic

considerations, as evidenced by the substation's ethereal facade.

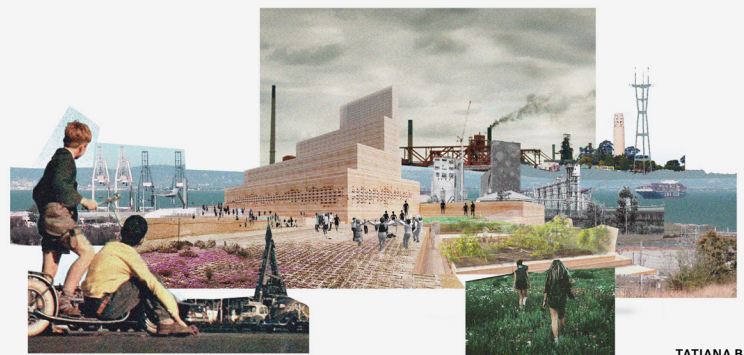
At Hunters Point, the proposed design also maximizes thermal efficiency by drawing from computational fluid dynamics and strives to target net-zero energy (NZE). It will incorporate photovoltaics, natural ventilation, and other efficient building systems to achieve Zero Energy Certification by the ILFI.

"In addition to its iconic expression as a community landmark, its form and configuration exploit the city's temperate climate to address equipment cooling requirements, while maximum use of energy-efficient technologies and on-site solar generation contribute to the project's NZE-targeted rating," TEF principal Paul Cooper said. "The building's massing, expression, and materiality, and its neighborhood-serving plaza establish a rich

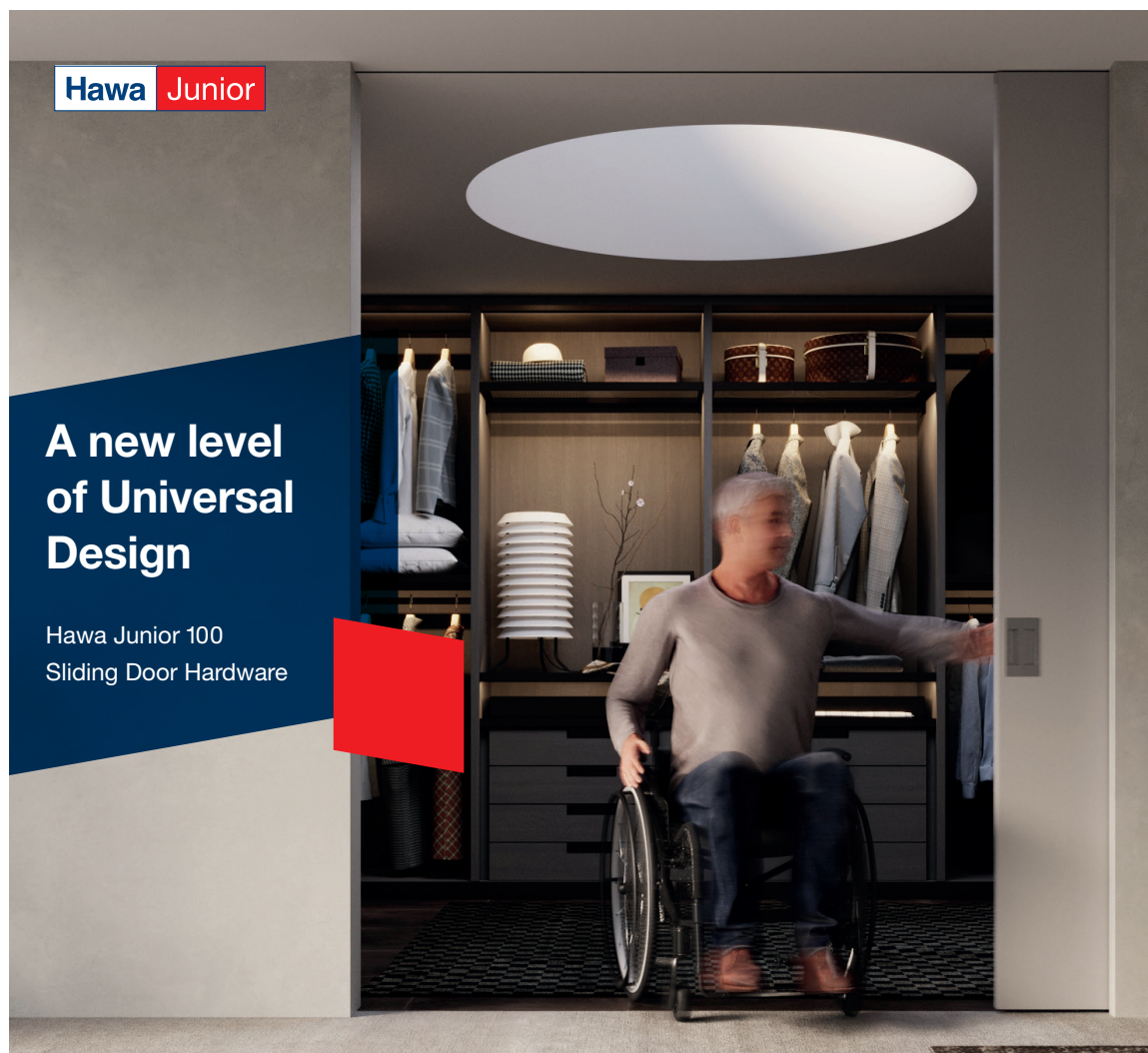
new urban edifice and public amenity in an area long ignored by investment."

Brighter days may be ahead for Hunters Point, a neighborhood that, in addition to the problems of pollution, poverty, and crime, now faces gentrification. The design proposal offers an alternative energy source but also an alternative future, one led by the community it serves. Project completion is estimated for fall 2023.

"Environmental justice is fundamental to the project, the site, and the area's history," Bilbao said. "Our goal was to reinforce and advance this front in the community, not only by minimizing the substation's impact on our planet but, more importantly, by placemaking that provides value for the people, as opposed to real estate value. We can craft a net-zero-energy building, but if the community is expelled due to gentrification, that's not justice." **Hannah Su**



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Lipstick on a Tank

Stuart Wrede shares an encounter with Claes Oldenburg, the famed Pop sculptor who died in July at 93.

*“Strangely enough I think that [Oldenburg’s monuments] would indeed be subversive. If you could even imagine a situation in which this could be done you would have the revolution. If you could really envisage a situation where, at the end of Park Avenue, there would be a huge Good Humor ice cream bar and in the middle of Times Square a huge banana, I would say—and I think safely say—this society has come to an end. Because the people cannot take anything seriously: neither their president, nor the cabinet, nor the corporate executives. There is a way in which this kind of satire, of humor, can indeed kill. I think it would be one of the most bloodless means to achieve a radical change. But the trouble is you must already have the radical change in order to get it built, and I don’t see any evidence of that. The mere drawing wouldn’t hurt, and that makes it harmless. But just imagine it would suddenly be there.” —Herbert Marcuse, commenting on Claes Oldenburg’s proposed monuments for New York City in conversation with Stuart Wrede, as published in *Perspecta* 12 (1969)*

My involvement with Claes Oldenburg came through the *Lipstick* project, a surprise gift to Yale University in May 1969, initiated by a small group of architecture and art students, including myself. Now more than 50 years later, when those events have largely been forgotten, it is perhaps worth telling the story again. It may have been one of the early high points of Oldenburg’s career, as it was his first built monument as well as a grassroots cultural-political happening.

The civil rights movement, the hippie movement, and the antiwar movement all were catalysts for attempting cultural-political-social transformation in the United States. Similar efforts with significant variations took place in Europe as well. The philosopher Herbert Marcuse, whose book *One-Dimensional Man* advocated cultural change as much as political change, was an important influence. Pop art was initially seen as engaging in a “send-up” of the prevailing consumer culture before it eventually became a reflection of that culture.

Claes Oldenburg, with his soft sculptures of everyday objects and proposals for colossal monuments in key urban locations, was seen as the most radical of the group. At Yale, inspired by the Herbert Marcuse quoted above, we figured a way around the catch-22 of the quote to get an Oldenburg monument built. We hardly expected to bring society to an end, but we knew we could mount an act of cultural and political protest.

Yale University relied (and relies) in part on gifts for its funding. Oldenburg, who was already famous, was a Yale alumnus. We would commission him to design a buildable monument, raise the funds needed, get it built, and then wheel it



into the center of the campus (commonly known as Beinecke Plaza) as a surprise gift to Yale.

We contacted Oldenburg, who was very enthusiastic about the idea and offered to do it for free. Lippincott, a fabricator in nearby North Haven, offered to build it at cost. We set up a nonprofit corporation (The Colossal Keepsake Corp.) as the vehicle for the gift so that donors would get a tax deduction for their support.

We spent time with Oldenburg, going through his sketchbooks, which contained a wonderful array of ideas, but none of them quite fit what we were looking for. Not only did we want something that would subvert the stale classical environment of Beinecke Plaza as well as criticize what we saw as a conservative university, but we wanted an antiwar message given the ongoing war in Vietnam. Oldenburg understood and obligingly went back to the drawing board. The result, *Lipstick (Ascending) on Caterpillar Tracks*, exceeded our highest expectations.

The 24-foot-tall lipstick on tank treads perfectly captured the combination of military aggression and seductive erotic commercialism that characterized America at the time, in addition to displaying an in-your-face critique of its conservative surroundings. It also took on some quite positive meanings we had not anticipated. For many it symbolized the crashing down of the gates of Yale’s male bastion as women entered the college for the first time in the fall semester of 1969. The still-fledgling gay movement also appropriated it as a symbol for its struggle. From our point of view, Oldenburg had hit the nail on its head.

During lunchtime on May 15, 1969, a motorcycle convoy accompanying a truck carrying the disassembled *Lipstick* arrived at the Yale campus, and *Lipstick* was wheeled into the center of Beinecke Plaza. *Novum Organum* (NO for short), a broadsheet produced by the architecture students, distributed a special *Lipstick* issue in the dining halls. Thousands of students came to see the installation. Given the enthusiastic crowd, the campus and New

Haven police, who had been given no warning, would probably have had a major riot on their hands if they had tried to stop it. As Oldenburg inflated the original soft tip, a deafening cheer went up from the crowd.

An elaborate, hand-drawn “Deed of Gift” was presented to a confused and less-than-happy-looking secretary of the university, whom Vincent Scully (a coconspirator and Keepsake Corp. board member) had requested to be at the plaza at the allotted time without explaining why. Oldenburg’s comment to the hapless secretary was classic: “It’s a gift. You must be gracious.”

Yale was less than happy with the gift. We received no thank-you note. The school pursued a passive-aggressive strategy, as given the tumult on so many other campuses they did not dare remove it. The “Deed of Gift” stipulated Yale had to maintain the *Lipstick* and that they could not remove it from Beinecke Plaza. Gradually it became covered in graffiti and parts of the original plywood treads were stolen. After about a year the *Lipstick* had been so vandalized that we decided that Yale was clearly not living up to the agreement, so we removed the sculpture. The administration no doubt heaved a silent sigh of relief.

An alternate plan to send the *Lipstick* to Helsinki as a peace statue from the United States for a European security conference (to match the gift of a peace statue from the Soviets) in the end was unsuccessful.

In the meantime, the *Lipstick* had become famous thanks to its appearance on the cover of *The New York Times Magazine* in conjunction with a major exhibition at MoMA of Oldenburg’s work in the fall of 1969. The *Lipstick* also featured prominently in the catalog written by Barbara Rose, who had previously covered the original installation.

Pressure built on the Yale administration from the Yale University Art Gallery, the art history department (where Scully was a driving force), and informed progressive cultural opinion to ask for the *Lipstick* back. They did

so a few years later, offering to fully restore it with a hard tip and Cor-ten steel treads. But they refused to put it back in Beinecke Plaza. Instead, they proposed to put it in the courtyard of Morse College, where Scully was the master, and offered that the Yale University Art Gallery would become the new owner.

While Oldenburg was rightly concerned and interested in getting the *Lipstick* restored and again put on public display, we, the (now-former) students who had originally commissioned the work, were hesitant to agree to the change of site. The *Lipstick* was a symbol of dissent against the Vietnam War (or, for that matter, any war), a conservative society, and a campus environment in need of renewal. It derived its meaning and strength from being at the symbolic heart of the institution. Oldenburg designed the *Lipstick* specifically to be placed in Beinecke Plaza (it can also be read as an upside-down classical column) and was quoted in our press release as saying “nothing would do but the central showplace—the Plaza.” In the Morse College courtyard, it lost its charged context and critical intent. In the end we reluctantly agreed and deferred to Scully’s and Oldenburg’s desire to have it resituated.

In the decades since, the *Lipstick* has become a mascot for Morse College. Hardly anyone at Yale remembers its charged history, the cultural and political context that brought it into being, and its powerful critical message. An article refers to the “playful” *Lipstick*, which, due to its popularity, was remade in metal and moved to Morse College, a description that mischaracterizes the monument’s intent and obfuscates the reason for its move. For another piece, an informal survey found that only one out of ten Yale students was “vaguely familiar with the sculpture’s riotous history.” By moving it to Morse, Yale managed to completely emasculate the *Lipstick*.

In 2019, on the 50th anniversary of the gift of the *Lipstick* to Yale, Sam Callaway, a fellow Keepsake Corp. board member, and I, the group’s president, made an initial effort to convince the Yale community to return the *Lipstick* to its proper historic place. We got nowhere.

But we have not given up. The *Lipstick*, a positive symbol of dissent, historically belongs in the plaza. It’s strange that 50-odd years after its installation, Yale remains reluctant to reinstall it there. It would be a fitting tribute to Claes Oldenburg, perhaps Yale’s most famous artist, if the *Lipstick* were returned to the plaza for which it was created.

Stuart Wrede, architect, environmental artist, and author of numerous books, received his MArch from Yale in 1970. From 1985 to 1992 he was a curator at, and then director of, the Department of Architecture and Design at MoMA.

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A Canyon Runs Through It

MAD Architects' One River North cracks open to provide a terraced landscape.

A copse of 13 tower cranes signals the massive building boom underway in Denver's River North neighborhood (RiNo), but only one of these projects has a crevasse running across its facade. The fissure is purposeful, intended to hold a landscaped canyon emerging from the reflective glass facade of One River North. The design aims to connect people and nature, but the ultimate proof will arrive when this 16-story, concrete-frame tower is completed in late 2023. As of mid-August, construction crews are placing concrete for level 10, and the project is expected to top out by the end of the year.

Designed by Beijing-based MAD Architects and Denver's Davis Partnership, when complete, One River North will offer 187 for-lease apartments and 13,352 square feet of open-air environments. It will likely quickly become a Denver architectural icon.

The project's developer is The Max Collaborative, an Ohio-based company established by the Ratner family in 2019. The firm has a history of building in Denver as Forest City Realty Trust, which was responsible for Central Park, a 4,700-acre redevelopment of the former Stapleton Airport. The company was acquired by Brookfield in 2018 at an estimated cost of \$11.4 billion.

"I've always been a big believer in architecture and a big believer in design," Kevin Ratner, the firm's chief development officer, told *AN*. "Over the long term or even in the short term, it really helps and differentiates a property," he added.

Ratner said his firm has been "big believers in the Denver market for a long time" and added that the firm looked to build in RiNo because it's "a neighborhood that's really dynamic, very creative."

When initial concept renderings were made public, locals scoffed at the canyon's lush-looking vegetation, doubting its ability to withstand the area's cold, windy winters and the yearly average 300 days of sunshine that often lead to blazing-hot summer days. Davis, a multidisciplinary design firm with deep Denver roots, adapted the landscape design concepts to the area climate.

"We shared how diverse our geology is, from high alpine lakes and tree line to the eastern plains," Jeff Stoecklein, senior landscape architect at Davis, said. "All of these plants need to be adaptable to the microclimates the building is creating," he added. The canyon will be populated with a variety of plant species to mitigate the risk of die-off of any one species and watered via an irrigation system. The canyon includes a trail-like walkway across four floors and a waterfall between the eighth and sixth floors. As the plants mature, "we will witness seasonal change," Stoecklein said, which will create a dynamic and variable view of the building throughout the year.

One River North is the first project collaboration between MAD and Davis. Dixon Lu, associate partner at MAD, commented that it's been a "great experience so far." He said being "very transparent is very important" owing to the challenges of delivering the design and meeting the project budget.

"If you can't build it or you run into problems or people feel like there's a lot of risk in the construction, the price is going to go up, so we needed to try to be very thoughtful about how we presented this building to people so they could understand what it was they were going to do," Ratner said. (The Max Collaborative declined to provide project costs.)

The Max Collaborative brought Colorado-based Saunders Construction on board shortly after selecting the design team, a move that was crucial to meeting budget and intent. "At the end of the day, we gotta rent the thing, and we're a for-profit company, so it's got to be able to make money," Ratner said.

"[Saunders] really helped us work through how to demystify the building and how to look for the parts of the building that were really special and unique," says Ratner, adding that "they were, very early on in the project, heavily involved in a lot of decisions."

"Our preconstruction effort was about two years," Dan Tuttle, senior project manager for Saunders, said.

"It's not a typical apartment complex for Colorado," added Sean Jackson, Saunders's senior superintendent. He says early builder involvement was important not only to track budgets and stay in line with the vision but also to "talk about logistics and how we're actually going to build this thing on such a tight site."

The design forbids a typical rectilinear stacking of units. The 37 different floor plans added to the challenges with mechanical and structural systems. Tuttle said Saunders brought glazing, mechanical, and curtain wall trade partners on in a design-assist role early "to coordinate the most difficult parts of the project, which would be the canyon and the trail."

The canyon's walls are created out of a prefabricated panelized framework system of #3 rebar with mesh applied, which supports the plaster creating the canyon's texture. Jon Kontuly, MAD's senior project manager, said KHS&S Contractors used the designers' model to prefabricate the panels into what the team collectively called a "chip" system.

"It really kind of looks like a ridged potato chip," said Kontuly. "They're able to use the Rhino model to engineer how thick the bars need to be, how often they need to be spaced, and also generate the bending data."

"You can start making real complex shapes with the same fabrication assembly steps," Shane Hastain, preconstruction manager for KHS&S, said. It becomes "like a rule system," allowing the chips to be welded together into what KGS&S calls a "quilt" and then installed from the bottom up. He said the "super early" coordination with Saunders provided the design team with certainty that the system could meet the budget.

Tuttle agreed, saying, when it comes to coordinating construction of a building like this, "you need as much help as you can get."

Nancy Kristof is a Denver-based freelance writer who tells stories about the built environment.

Jon Kontuly, senior architect at MAD Architects, will present One River North at AN's Facades+ event in Denver on September 21.

Below, left: As construction progress continues, the stepped street-front canyon is slowly becoming visible.

Below, right, top: A rendering of the completed building, to be finished by late 2023

Below, right, bottom: With expertise from Davis, the canyon's plantings, shown here in a rendering, were adjusted to thrive in Denver.



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Ships Surrounded by Lava

Taller Mauricio Rocha completes an expansion of Diego Rivera and Juan O’Gorman’s experimental museum in Mexico City.



RAFAEL GAMO



ONNIS LUQUE

Throughout its history, Mexican architecture has manifested a certain degree of historical self-awareness and a concern for identity. Diego Rivera and Juan O’Gorman’s Museo Anahuacalli in Mexico City is a particularly intriguing case. Anahuacalli is one of several projects developed during the mid-20th century that illustrate a debate over the appropriateness of modernism for Mexican architecture. The recent expansion by Taller Mauricio Rocha introduces a contemporary elaboration on this rich architectural conversation.

As in many other countries, Mexico saw an increasing skepticism of modernism among its architects in the 1940s, with World War II casting long shadows across the promises of technological progress. While the machine aesthetic was initially embraced as a tool for the postrevolutionary national project, a more experimental language eventually emerged in an attempt to work in dialogue with Mexico’s territory and identity—specifically the heritage of pre-Columbian cultures.

Perhaps no other space stimulated the nationalistic imagination of this time like the Pedregal de San Ángel. On this immense and desolate lava field, intellectuals such as Rivera, Luis Barragán, and the painter and writer Dr. Atl (Gerardo Murillo Cornado) envisioned an urban development that would materialize the country’s unique modern identity. To this end, in 1945 Rivera published his prescriptions for the urbanization of Pedregal. In the next few years, the most prominent architects of the time led the construction of the National Autonomous University of Mexico’s (UNAM) spectacular campus, known as University City, and Barragán initiated the project of the adjacent upscale Jardines del Pedregal neighborhood. In Barragán’s vision, Pedregal would, as recounted in Keith Eggner’s *Luis Barragán’s Gardens of El Pedregal*, “provide sanctuary from an aggressive modern world, with space for meditation and the cultivation of spiritual values.”

Rivera acquired a plot of land near the eastern edge of the lava field, originally



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intending to create a ranch. Ultimately, he decided to build Anahuacalli, an arts center that would include workshops, performance spaces, and a repository for his sizable collection of pre-Columbian artifacts, as well as a small ecological reserve. Enlisting the help of architect Juan O’Gorman, Rivera worked on the Anahuacalli until his death in 1957. O’Gorman, Rivera’s daughter Ruth (also an architect), and other collaborators completed the main exhibition building and four secondary structures in 1964.

These buildings, organized around a central plaza, manifest Rivera and O’Gorman’s eschewal of modernism in favor of an eclectic language that some, including O’Gorman himself, have described as organic (acknowledging the influence of Frank Lloyd Wright). The massive, symmetrical volumes are clad in volcanic rock and incorporate forms and angles reminiscent of Aztec or Zapotec structures. In the main building, the designers introduced such distinctive features as corbel arches, slit

windows covered with onyx, display shelves and cabinets made of stone, and experimental tilework techniques that O’Gorman would later employ for the murals of UNAM’s Central Library and his own cavelike house in Pedregal.

Today, the Anahuacalli not only showcases Rivera’s interest in pre-Columbian cultures but also hosts a variety of exhibitions and artistic events. Still, these buildings have been insufficient to house the collection of more than 40,000 objects that Rivera amassed over his lifetime, and Rivera’s vision of an arts center was never properly realized. For these reasons, a competition was launched in 2016 for an expansion and renovation. The winning proposal by Mauricio Rocha opened to the public in the fall of 2021. Rocha told *AN* that he faced the challenge of dialoguing with the existing buildings and the unique landscape and thus being in conversation with Barragán, Rivera, and O’Gorman.

The expansion consists primarily of three new volumes that match the height of



RAFAEL GAMO

the original secondary buildings. These are built northwest of the existing complex and arranged around a second, smaller plaza. The centerpiece is a new accessible storage facility for the museum collection, while the two others house a dance studio, offices, workshops, and other multipurpose spaces.

Whereas Rivera's buildings rise on an even platform around the sunken plaza, the new ensemble highlights the rough terrain. Rocha's single-story volumes appear to sit gracefully on the lava formations in a way that echoes many of the first houses built at Jardines del Pedregal. In Rocha's mind, the new buildings are ships floating on a sea of lava. (It works: Anahuacalli, in Nahuatl, means "house surrounded by water.") The new plaza and the corridor connecting it to the main complex seem like plinths that have been cast into the ground—or, continuing Rocha's metaphor, like sections of a pier. These gestures produce a fascinating dialogue between the clear orthogonal structures and the rugged landscape.

Unlike Rivera's hermetic structures, the new buildings maintain a refreshing openness to the exterior. This is achieved mainly by an external lattice made of vertical stone slats, which evoke Rivera's slit windows. Upon entering (or, rather, boarding), one soon sees the buildings as articulations of horizontal and vertical planes, interior patios, and corridors. The effect is of ever-partial interiors, subtly wrapped by the latticework that modulates the sunlight and frames stunning views of the landscape. Barragán's words, plucked from Eggener's book, seem fitting here: "A landscape that is held and framed with a proper foreground is worth double." The patios reveal a lower level where the concrete foundations merge with the volcanic rock. Ash wood doors and black metal railings complete the material austerity and formal rigor.

These are qualities that characterize Rocha's larger body of work, as does the play of rectangular prisms produced by vertical and horizontal planes, each spaced out



RAFAEL GAMO



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Facing page, left, top: The addition works within the landscape instead of rising to the height of existing building.

Facing page, left, bottom: The extension provides storage for the museum's 60,000 objects that were previously not on display.

Facing page, right: Baguettes of volcanic stone screen the walkways of the new structures, while the lower level is left open.

Left: Wood lines the interior walls; the floor-to-ceiling height matches the existing structures.

Above, top: The walkways extend out from the main plaza; open areas support native plant species.

Above, bottom: The single-story cantilevers above the Pedregal's rocky terrain.

by fragments of landscape. His Center for the Blind and Visually Impaired in Iztapalapa (2000) and School of Visual Arts of Oaxaca (2008), two of his most celebrated works, display similar arrangements. This recurrent strategy manifests an insistence on producing interior spaces imbued with the outdoors. As in those projects, the Anahuacalli expansion offers a much richer experience than suggested by the simple orthogonal plan. In this way, architecture is conceived as an experience of landscape and light. In his own words, "architecture is not volume, but void."

The project also entailed renovating smaller existing buildings, which expands the existing library, reorganizes the staff's facilities, and adds a ticket counter and restrooms by the entrance. Whereas the new volumes feel independent from the original complex, perhaps the expansion is most interesting, as the two architectural epochs collide here. There is an evident congruity not only of materials but of aesthetic sensibilities. When asked about

references, Rocha mentions the likes of Robert Smithson, Gordon Matta-Clark, Akira Kurosawa, and Andrei Tarkovsky rather than other architects. It is no coincidence that an architect whose own work extends to installation art and ephemeral interventions would be chosen to elaborate on the radical experiment of two artist-architects. In this sense, Anahuacalli stands as a witness to the sensibility of these and other Mexican architects across generations.

Gabriel Villalobos is a professor of architecture history and theory in Mexico City. He holds an MDesS from the Harvard Graduate School of Design. His research focuses on the multiple dialogues between art and architecture across the 20th century.

Mauricio Rocha will be a keynote speaker at AN's Facades+ event in Los Angeles on November 3.

Constraints as Context

Jensen Architects embraces the complexity of San Francisco as design inspiration.

The Bay Area maintains a tight grip on its history. The turn-of-the-century Victorian homes and corner shops that line the streets of San Francisco, in particular, are carefully guarded by historic preservation guidelines that protect the image of the city from the rapid growth of the local tech industry—and, supposedly, the cultural shifts caused by that growth. While some architecture firms might view these guidelines as constraining, the office of Jensen Architects has treated them as productive context for its design practice since its establishment in 1994. “Looking back at what we’ve

done in the region,” founder and principal Mark Jensen reflected, “a lot of our work derives its character from the unique climate, topography, and historic fabric of the Bay Area.”

Working from its office in the SoMa district on Market Street, the central axis of San Francisco’s commercial district, JENSEN has completed several projects that engage in an intimate dialogue with the city’s revered historic architecture without succumbing to it. “We are ultimately concerned with building buildings of our time,” Jensen said. “And you can acknowledge context in much more

sophisticated ways than just simply repeating bay windows ad nauseam.” The JENSEN trademark is subtly dispersed across the city, but it can be described as an attention to material detail, compositional clarity, and community input.

Through this combination, every project JENSEN has designed for the public has been evaluated against the principles of “social infrastructure,” a concept borrowed from social scientist Eric Klinenberg to describe methods of reversing the social inequities commonly embedded in the built

environment. In the Bay Area, which has become more expensive and economically stratified in the past few years, the “social infrastructure” provided by JENSEN often arrives in the form of parks, playgrounds, galleries, and other spaces that offer “equal playing fields” for the benefit of all residents in a city that is increasingly financially inaccessible to most.

Shane Reiner-Roth is a lecturer at the University of Southern California.



1 David Ireland House 2015

David Ireland, a San Francisco-based sculptor locally beloved for his use of found objects and his humble approach toward art production, lived in a grand Italianate-style home in the Mission District that he treated as his largest sculpture for the last 34 years of his career. Following his passing in 2009, arts philanthropist Carlie Wilmans commissioned JENSEN to preserve the home as a permanent offering to the public with a permanent installation of the late artist's oeuvre while introducing exhibition space for local talent to ensure that Ireland's open and generous presence in the community would persist. In adding another room to the property, JENSEN broke away from the home's ornate detailing to design an additional garage-style gallery finished in weathered concrete. The firm also squeezed an elevator into the 135-year-old structure to welcome all visitors to the permanent installation on the second floor.



HENRIK KAM

2 Cole Valley Residence 2021

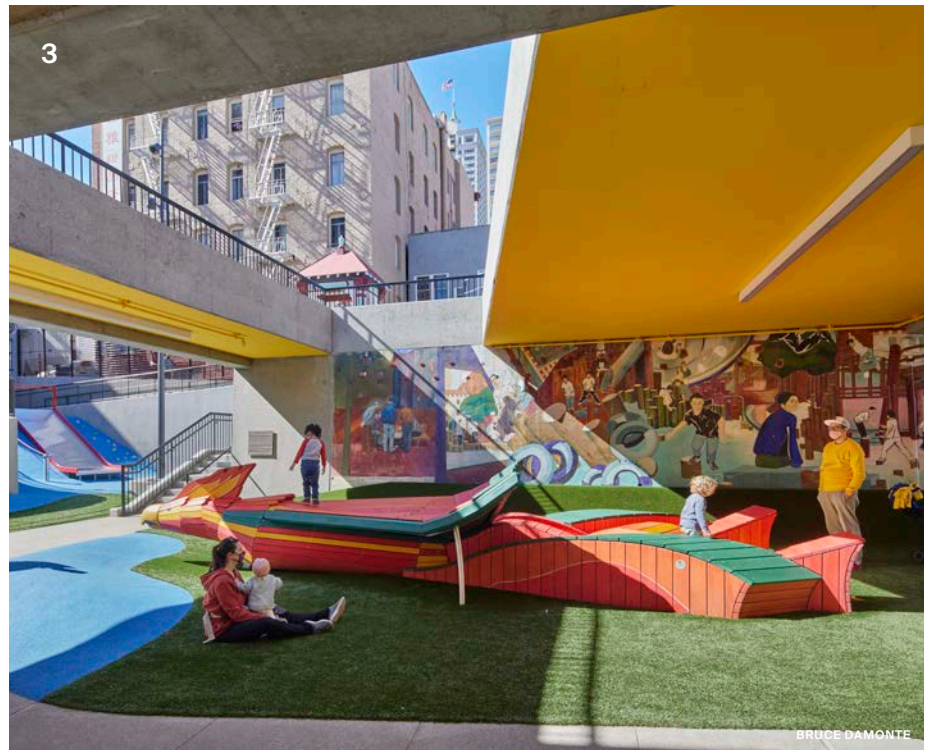
At the foot of San Francisco's distinctive Sutro Tower, JENSEN designed the Cole Valley Residence as a stack of volumes individually shaped by the complex topography of the neighborhood and the adjacent picturesque landscapes. "Even as a private house, it has a public aspect to it as an outward expression of what the neighborhood offers," said Mark Jensen. The textured concrete base grips the surrounding hill, allowing the remaining floors to respond freely to the immediate context of the site and the internal programmatic desires of its clients. From the street, the main living space appears to float as it cantilevers over the glass pavilion on the third floor, behind which is a sunken backyard replete with native landscaping and a catwalk leading to an idyllic outdoor lounge.



JOE FLETCHER

3 Willie "Woo Woo" Wong Playground 2021

Set within the oldest and most densely populated Chinatown in the nation, Willie "Woo Woo" Wong Playground provides ample open space in a neighborhood with little to spare. Named after a locally raised Chinese American basketball player, the playground was extensively renovated in collaboration with CMG Landscape Architecture to serve as a multiuse community center that gently cascades over a steep plot. "The dramatic change in elevation across the playground required us to consider how to make a number of platforms for slides and jungle gyms as accessible as possible for every visitor, young or old," Mark Jensen noted. A pre-existing clubhouse on the site was revamped as a multipurpose space with the addition of a mural by local contemporary artist Julie Chang and an internal stadium stairway.



BRUCE DAMONTE

4 India Basin Shoreline Park 2022

Located in southeast San Francisco along the bay, India Basin Shoreline Park is currently separated from the Bayview-Hunters Point neighborhood by urban detritus and a lack of pedestrian infrastructure. "Just up the hill from this huge park is all of this affordable housing," JENSEN principal Emily Gosack said, "and yet there's no linkages back down to the park." In collaboration with landscape architecture firm GGN, a scheme by Jensen Architects opens the park to the neighborhood. Now under construction and set to be complete by August 2024, the renovation will preserve the remnants of a 154-year-old shipyard while opening the site up to pedestrian thoroughfares bordered by native landscaping. The firm is also restoring the former Shipwright's Cottage as a welcome center and classroom while designing additional contextual structures across the site.



COURTESY JENSEN ARCHITECTS

Architecture of Good Intentions

Gehry Partners designs a new campus for Children's Institute in Watts.



OLTMANS CONSTRUCTION/COURTESY CHILDREN'S INSTITUTE

Design Architect: Gehry Partners
Architect of Record: Chait Co
Location: Los Angeles

Landscape Architect: Elysian Landscapes
Structural Engineer: Workpoint Engineering
Electrical Engineer: Schnackel Engineering
Mechanical & Plumbing: Schnackel Engineering
Civil Engineer: Mollenhauer Group
Lighting Design: HLB Lighting
Acoustics: Newson Brown Acoustics
Signage/Wayfinding: Still Room, Fusion Signs
Telecommunications: Bogaard Group, TNT Telecom
Fire & Life Safety Consultant: VFS Fire & Security Services
General Contractor: Oltmans Construction
Client Representative: Bottega Management Group

In Frank Gehry's oeuvre there are the big, career-defining projects—like Walt Disney Hall and the Louis Vuitton Foundation—and there are the minor works: buildings that have smaller footprints and more humble design ambitions but are fortified with good intentions. Gehry Partners has been dabbling in this latter category of late, first with the Beckmen YOLA Center, a community center and youth music conservatory built for the LA Phil's youth orchestra housed in a retrofitted bank building in Inglewood, and recently, a new 20,000-square-foot campus for Children's Institute in Watts.

The firm provided architectural services pro bono to the 100-year-old support organization, which addresses poverty and health inequity. It's an imprimatur that is as much philanthropic as it is architectural—perhaps even more so, as Gehry's name conveys instant recognition to board members and donors. "The Children's Institute is about helping families who are victims of trauma and violence," said Sam Gehry, associate at Gehry

Partners and Frank's son. "[Its mission] is something that we are passionate about."

From a design perspective, however, this altruistic turn is less about novelty and computational flexing (the flashy formal stuff Gehry's known for) and more reliant on revisiting familiar moves and materials. With Children's Institute, the approach translates to a cluster of tan and white stucco boxes, some clad in corrugated aluminum—think FOG circa late 1980s—meets—suburban bank branch.

The nearly \$26 million building is not the firm's finest composition, but it does negotiate the constraints and histories of the surrounding context. Located in the heart of Watts on land donated by Los Angeles County, the project is less than a mile from the Watts Towers and directly across the street from Ted Watkins Memorial Park, a 28-acre green space that is the hub for many neighborhood services. To the north is Franklin Square, a group of 38 ranch homes that were relocated to Watts in the 1970s as part of a housing

program to promote homeownership in the Black community. To the south is a construction zone soon to be home to a hulking Kaiser Permanente medical center by Perkins&Will.

Gehry's design (as executed by architect of record Chait & Company) takes clues from its residential neighbors and places single-story boxes around the perimeter to break up the scale of the overall building. A garden by Elysian Landscapes softens the edges. Vines and hedges on the north side camouflage a security fence and cinder-block wall that protects the property. The overall scale and nonuniform facade were dictated by a 2018 zoning change, the Southeast L.A. Community Plan Implementation Overlay District, which was adopted to protect the character of the existing urban fabric. The campus for this Children's Institute location tries hard to fit in and be hospitable, while also broadcasting security and architectural credibility.

This tension carries over to the interior, where the design bridges providing community



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OLTMANS CONSTRUCTION/COURTESY CHILDREN'S INSTITUTE

gathering spaces and rooms for individual and group therapy. “All of our spaces are designed to be places with a feeling of calm, sanctuary, and kind of neutrality,” noted Martine Singer, president and CEO of Children’s Institute. “Even though we do a lot of mental health services, it’s more meeting, coaching, counseling, convening, without all those therapy labels. So the biggest message was ‘It must be a place where people feel safe.’”

While clunky on the outside, inside, the project seems poised for success—*seems*, because as of late June only a few programs had taken place on-site owing to COVID protocols. A set of doors leads visitors from the street to a small lobby, where a reception desk regulates entry into the central Otis Booth Foundation atrium, which is crowned by clerestory windows. According to Sam Gehry, the overall scheme is warehouse-like—a simple structural steel grid and a polished concrete floor. It is more complex on the ground level, where the plan follows a known Gehry strategy: loosely grouping different programs, like community meeting and individual therapy rooms, to form a small village around a double-height town square.

It is a happy surprise to find that the jumble of geometries so banally presented on the exterior find their calling inside. Intimate corridors lead to the more private areas, and the spaces in between boxes allow for ample natural light to reach each room. Generous windows look onto green landscaping. “We didn’t want to stigmatize therapeutic care or deny those spaces the natural light,” Sam Gehry said.

On the second floor, dedicated staff areas, hoteling desks, and seating areas ring the atrium, which is delineated by a low,

wood-topped pony wall that traces an eccentric outline. One double stack of cubes pops up above the wall to form an enclosed meeting room with a large square window reminiscent of the “lifeguard tower” of Frank Gehry’s famous Norton House (1984) in Venice. The self-referential gesture works: The reference adds playful character to the potentially self-serious typology of a community services building. Still, whether it’s pro bono or not, one wonders what might result if Gehry Partners didn’t rely on the old playbook—certainly Watts deserves more experimentation.

While touring the building, Singer looked out one of the big windows overlooking the back garden and parking lot and recalled that the original design was 50,000 square feet, more than double the current size. It was slated to fill the two-acre campus but was scaled back because of budget limitations and shifting program needs. Conscious of how architectural intents can overwhelm delicate community relationships, she said, “It was gorgeous, but it was going to be too big, too expensive, too imposing, and too like a monument to us.”

Mimi Zeiger is a Los Angeles-based critic and curator.



OLTMANS CONSTRUCTION/COURTESY CHILDREN'S INSTITUTE



OLTMANS CONSTRUCTION/COURTESY CHILDREN'S INSTITUTE



OLTMANS CONSTRUCTION/COURTESY CHILDREN'S INSTITUTE

Previous page: The facility is located in the southern Los Angeles neighborhood of Watts adjacent to two parks and an under-construction healthcare facility.

Facing page, above: The boxy massing recalls Frank Gehry's works from the late 1980s.

Facing page, left: Large windows are cut into the forms for ample daylighting.

Above, top: Community meeting and individual therapy rooms are gathered around the double-height Otis Booth Foundation atrium.

Above: The warehouse-like base building finishes support a series of rooms for group activity.

Right: Daylight reaches smaller rooms through both exterior and interior windows.



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The Architects & Designers Building is New York City's ultimate showroom resource. Located at 150 East 58th Street in Manhattan, the A&D Building offers discerning homeowners and trade professionals the finest collection of premium brands to suit any design project, whether modern, traditional, or transitional. Its 40 showrooms contain hundreds of distinctive products, spanning high-end residential and contract furniture, luxury appliances and lighting. All under one roof.

adbuiding.com

Bilotta: A Dream Custom Kitchen

Beauty meets practicality in this Florida home. Above the kitchen's wood-look porcelain tile floor, clean-lined slab doors have a narrow-raised perimeter trim, while a combination of rift-cut white oak and "Super White" balances earthy with bright. Appliances are paneled for continuity, and LED lighting illuminates toe kicks and the island overhang. The countertops are engineered marble ("Unique Statuario" by Compac), and white marble mosaics lend texture and depth to the backsplash.

The showstopper is the room divider, made with brushed gold square metal stock. Its gridded motif references the home's entry door, and its wavy glass obstructs kitchen mess, yet still admits light. Brushed gold straps on the kitchen's white hood tie in with the divider. Gold hardware, faucets, and globe pendants add glamor.

bilotta.com

This Bilotta kitchen was designed in collaboration with JBD JGA Design & Architecture and NMB Home Management Services.



Poggenpohl: No. 237 Madison is urban living, redefined

Andrée Putman's classic Morgan Hotel has been re-imagined as a revolutionary apartment rental solution for elegant micro-living that redefines apartment culture. Studios are designed to flex from day to day and come fully furnished with a complete custom Poggenpohl kitchen. One- and two- bedroom lofts are unfurnished, larger living spaces. These apartments feature Poggenpohl kitchens and custom closets but are a blank canvas for your style. The modern Poggenpohl kitchens are cleverly designed, with key kitchen appliances that pull out as drawers, including Sub-Zero Refrigerator and Freezer Drawers and Fisher & Paykel Dishwasher Drawers. Premium cooking appliances include Fisher & Paykel induction cooktops, a Miele micro-oven combination, and Blanco sinks and faucets.

poggenpohl.com
no237madison.com

In Situ Design, an architectural interior design studio based in Manhattan and Brooklyn, designed the apartments and amenities, supported by Lilian B Interiors as Assistant Designer. Tatiana Bacci, a cabinetry designer from Bacci Living, worked together with Poggenpohl to build the custom storage and kitchens for the apartments.



Discover Design at the A&D Building

Gaggenau: 40 East End’s Quietly Elegant Homes



The boutique building at 40 East End showcases 28 residences that truly feel like single-family homes. They’re nuanced, they’re bright, and the homes’ proximity to Carl Schurz Park give off the vibe of a true oasis from the bustle of New York. At the heart of each residence is an airy kitchen perfect for gourmet cooking or entertaining. Every one of those kitchens is resplendent with Italian marble and lacquered cabinets, and all feature Gaggenau appliances, specified by the architects contracted by the development firm Lightstone: Deborah Berke Partners and Gerner Kronick + Valcarcel, Architects (GKV). Berke, dean of the Yale School of Architecture, takes pride in work that “distills complex considerations—environmental, social, and aesthetic—into meaningful architecture.” 40 East End—like other properties curated by Lightstone—demands the perfection and quiet elegance of Gaggenau.

gaggenau.com/us/

“Deborah has a unique understanding of the residential experience—she designs with purpose and intention,” said Scott J. Avram, senior vice president with Lightstone. “Throughout each step of the process, we carefully considered how one would live in, move through, and use the spaces we were creating.”

SieMatic: Mondial

The new SieMatic Mondial style world, with its visionary design language, combines the simplicity of geometric forms with the opulence of expressive materials to form an experience which appeals to all the senses at once. The fascinating interplay of material, form, and color lends the kitchen an astounding presence, one which at the same time tastefully blends in with the surrounding architecture.

siematic.com



COURTESY SIEMATIC



COURTESY SIEMATIC

Mondial's range of finishes and details, when properly combined, creates an emotional world of opulence, simplicity, and sensuality.



The Ronald O. Perelman Performing Arts Center at the World Trade Center | Design Architect: REX | Executive Architect: Davis Brody Bond



The Studio Museum in Harlem | Design Architect: Adjaye Associates | Executive Architect: Cooper Robertson

Endurance and Change in California



JONNU SINGLETON

The new 6th Street Viaduct is beautifully robust infrastructure, but will it win the hearts of nostalgic Angelenos? ^{p. 32} Politicians crow about the success of tiny house villages. Are they a useful response to the state's—and the nation's—growing number of unhoused people? ^{p. 34} Is the escalating frequency and intensity of wildfires leading to a similar increase in the design and construction of fire-ready buildings and communities? ^{p. 36} Who remembers midcentury architect Gregory Ain? Branded a communist during the Red Scare of the 1950s, he had ideas about housing that are more relevant now than ever. ^{p. 38}

The Once and Future Bridge

Can the 6th Street Viaduct predict the future of Los Angeles?

Nearly every article about the demolition of the old 6th Street Viaduct in 2016 mentions *Terminator 2: Judgment Day*. In Los Angeles, where every location is scenery, the iconic double-arched span played backdrop to the Skynet apocalypse. Architect Michael Maltzan, designer along with engineering firm HNTB of the expressive, ribbonlike new 6th Street Viaduct, has a rosier vision—one of equity and accessibility. L.A. infrastructure, however, is linked to unjust acts of clearance and partition, localized catastrophes not always captured by Hollywood. Can a new bridge rewrite the narrative?

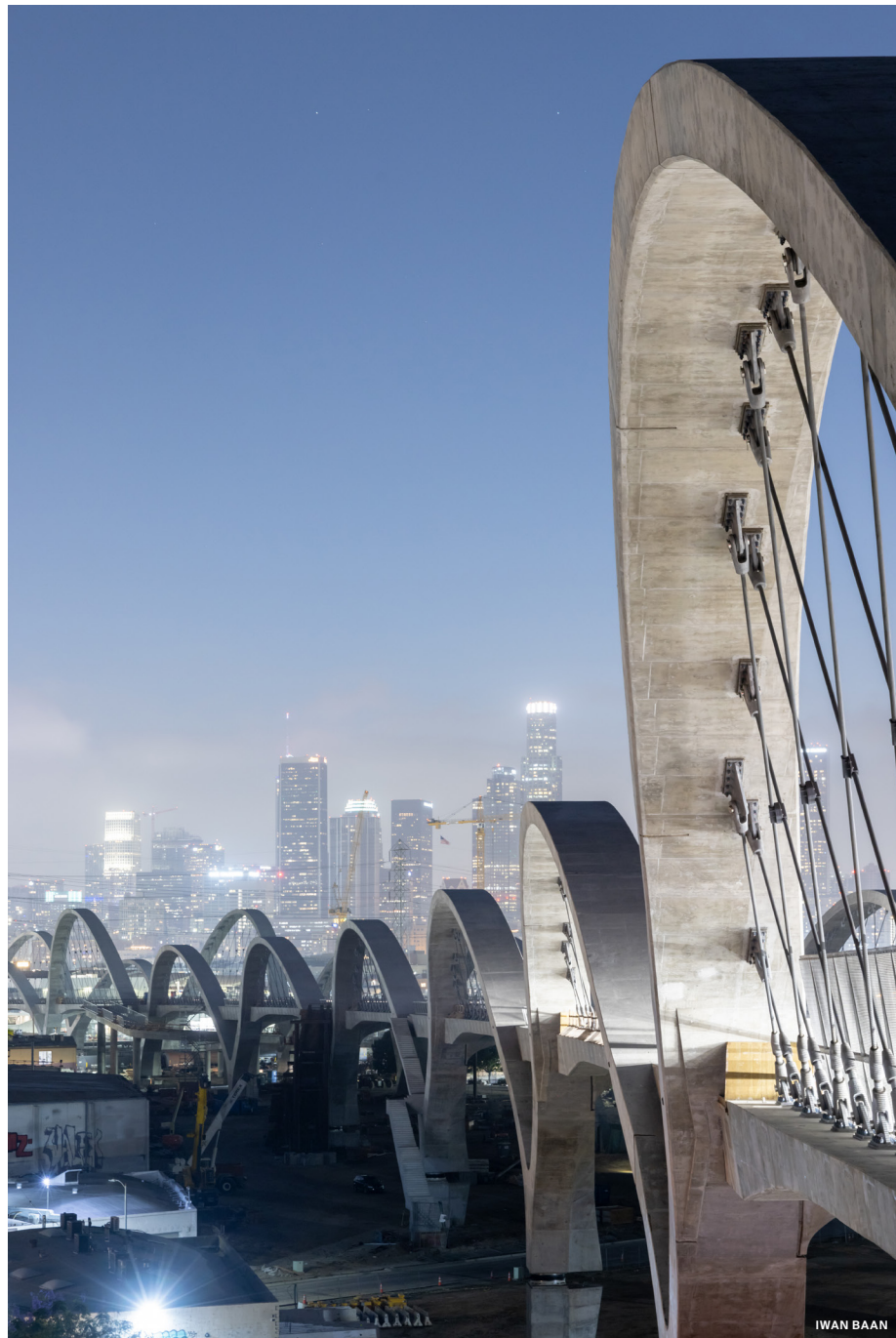
Built in 1932, the original art deco bridge appeared in dozens of media shoots, from *Repo Man* to Madonna's "Borderline" video, before it was torn down because of deteriorating structural integrity caused by alkali-silica reactions, or "concrete cancer." Whether viewed on the silver screen or on YouTube, each cameo reinforced an idea of the channelized L.A. River (and the industrial and working-class neighborhoods on its banks) as a sun-bleached concrete dystopia. But those images are now cliché. Whatever gritty reality once captured and capitalized upon has transformed and continues to transform. The new \$588 million, cable-stayed viaduct, more than a decade in

the making, must address present needs for the city and consider what might come next.

"The responsibility of infrastructure is to try to anticipate and provide for a contemporary city—a city continuing to evolve," Maltzan said. "One absolute constant in the equation is that the city in ten years will be a different city than it is today."

But L.A. history isn't chronological, to paraphrase writer Rosecrans Baldwin; it moves incrementally forward and then loops back on itself. And architecture isn't geomancy. Still, divination matters for the people who will use and live with the bridge. The runes cast include ten pairs of concrete arches (each leans outward with a 9-degree tilt) that stylishly hop over the L.A. River, 18 railroad tracks, and the U.S. 101 freeway. The 3,500-foot-long roadway connects Boyle Heights—a largely Latinx neighborhood facing crises of affordability and displacement—to the wholly gentrified Arts District, with Skid Row beyond.

Arches on the eastern side monumentally frame the ever-growing downtown L.A. skyline. It's a composition worthy of the city's tourism bureau, but on the opposite west bank the roadway ramp uneventfully slips into the urban fabric. (Eventually an arts plaza will tuck, troll-like, under this



IWAN BAAN



IWAN BAAN

end of the bridge.) The spectacular arches are optically dwarfed by warehouses converted to tech offices and high-end lofts—and the pending mixed-use high-rise complex 670 Mesquit by BIG.

In a 2016 farewell to the previous bridge, author Dan Koepfel described how Louis Huot, engineer of bridges and structures for the City of Los Angeles Bureau of Engineering from 1923 to 1961, took the demands of the car into account: Huot's design reflected translation of automotive technology into urban form. As such, it embodied a temporal shift. "It wasn't just a bridge over a river; it was a bridge between eras, ushering in Los Angeles's dedication to the automobile," wrote Koepfel.

During opening weekend in early July, a parade of lowriders made their way slowly across the deck, ushering in a new age that looked more like the previous. The tricked-out cars seemed at home on the roadway: Their streamlined bodies mirrored the concrete forms, and gleaming chrome reflected the celebratory blue-and-red LEDs that lit up the arches, giving purchase to Maltzan's aspiration that the bridge could double as a civic space. But for whom?

Maltzan and HNTB's design prides itself on multimodality: Pedestrian sidewalks and dedicated bike lanes (each meager lane protected by a flimsy dotted line of plastic bollards) flank the roadway. Five sets of stairs and two ramps are in place; one of the ramps is a 45-foot-tall, 790-foot-long corkscrew that allows access to the ground below where the 12-acre 6th Street Park, Arts and River Connectivity Improvement (PARC) Project is currently under construction.

Yet two weeks after opening, happenings on the bridge tested the ability of infrastructure to serve as a place of civic expression: a haircut in the center median, people climbing up the arches, pedestrians stopping traffic. A Reddit user posted a video of a car doing donuts midspan, leaving behind black skid marks worthy of the *Fast & Furious* franchise, leading others to do the same and causing the LAPD to shut down the bridge for several nights in a row. These activities affect the architecture and raise questions about the designers' and the city's capacity to predict how users will engage. There are plans to add speed bumps to slow the stunt drivers. But rumors of police state apparatuses—security cameras, chain link fencing, and Jersey barriers—threaten any impulse for equity. Moreover, certain design elements, such as the low LED roadway lighting, would be compromised by additional barriers.

The closed nocturnal bridge, however, asks us to imagine a future where the car is not the dominant user. An optimist might forecast that over the next decades the meager 10-foot-wide bike lanes could expand, and the roadway would be given over to the people for transport not dependent on fossil fuel. The cynic sees LAPD shutdowns and gridlock. Utopia versus dystopia. Success is less contingent on the roadway than on how the viaduct behaves like a sinewy tissue connecting parts of the city. Maltzan explained the plan for a bike ramp to link up with a bikeway that will stretch down the whole western bank of the channel—from the valley to the port—as part of the L.A. River master plan. And the City is in discussion with the L.A.



Facing page, above: The 6th Street Viaduct offers not only a rebuilt pathway to and from downtown, but a new place from which to view the skyline.

Facing page, left: The irregular arches lean outward, supporting the roadway through a series of diagonal cables.

Above: Infrastructure for bicyclists and pedestrian, including elevated pathways and ramps, aim to connect the viaduct to a 12-acre park below.

Below: The new bridge spans railroads on both sides of the channelized Los Angeles River.



Metro about an Arts District light-rail stop at the foot of the viaduct.

While these possibilities gently nudge Los Angeles urbanism away from the automobile, the willingness of Angelenos to go along with the plan remains uncertain, like trying to decipher if the gray on the horizon is smog or a marine layer—a kind of L.A. nephomancy. Just how to predict the future was on the mind of Deborah Weintraub, chief deputy city engineer and architect with Los Angeles’s Bureau of Engineering (BOE), ten years ago when she set out to write the request for proposals for the international design competition for the replacement viaduct. She underscored that the ability of the RFP to anticipate the needs of an evolving city rested on language. Notably, she swapped out the prescriptive word “would” in the environmental impact report for “could” in the RFP, thus opening a wider range of interpretations and possibilities—donuts and haircuts excluded, obviously.

Weintraub said that the BOE team working on the project is largely female, so perhaps the suggestive “could” implies a feminist reading. The iconography of the swoopy geometries is meant to broadcast to the city at large and speak at the scale of global media, but could the bridge also be a place of exchange, of gathering? The hope is that PARC, mostly located on the eastern side of the river, will be an answer—or at least a \$30 million wager on the value of shaded public space in Boyle Heights. Renderings for PARC, designed by Hargreaves Jones and at least a couple years away from completion, reflect a panoply of activities: a dog park, soccer fields, a

rain garden, fitness equipment, and so on. The opinions of Boyle Heights residents, especially a group of women from a nearby low-income housing project, were instrumental in shaping the program.

“What is [the bridge] going to look like from the bottom when I’m standing underneath?” was written into the RFP,” said Weintraub. “What does it give back in terms of opportunity for community growth and community amenities?” We conceived of that from day one.”

Arguably, the best view of the project is from the bike and pedestrian ramp that dips below the bridge’s main deck. From that perspective the viaduct is all underbelly and, unlike its surface, shadow—the oppressive white glare of summer is reduced to a peripheral swath of blue. The infrastructural thrall of a secular cathedral made up of concrete girders and beefy supports balanced on impressive base isolators is seductive. Worthy of film shoots. But without the completed park, it’s impossible to judge if this land under the viaduct can produce the civic agenda so desired—and so needed—by Angelenos. The top of the bridge may light up the skyline, but its early days of civic play and performance are lessons in how citizens might transform the landscape below into something more than an impressive list of amenities. **MZ**



COURTESY LEHRER ARCHITECTS



MICHAEL B. LEHRER



MICHAEL B. LEHRER

Gimme Shelter

In L.A., new tiny home villages offer a temporary solution in the city's struggle with homelessness.

When one is driving north on the Hollywood Freeway through the San Fernando Valley, it's hard to miss a controversial new urban type here in Los Angeles: a fenced compound with rows of little gabled boxes, like jumbo Monopoly houses, and bold patches of color painted across the ground and some of the quaint structures. Alexandria Park Tiny Home Village, as it is formally named, is a new kind of homeless shelter. Opened in North Hollywood in April 2021, it consists of 103 so-called tiny homes, freestanding 8-foot-by-8-foot rooms that house up to two residents each. Bathrooms, showers, and a laundry are on-site. The shelter is run by the nonprofit Hope of the Valley, which provides security, thrice-daily meal service, and case management.

Alexandria Park is one of ten such shelters in L.A., all of them built within the past two years on municipal land with City funding, though run by independent service providers. In these villages, residents live in 64-square-foot buildings that include two beds, shelving, AC, windows, and a lockable door. Assembled from prefabricated panels, the structures probe the extremes of the concept of the tiny home—they are spartan and utterly compact.

Critics have taken issue. A forum of mayoral primary candidates this spring became heated after the progressive activist Gina Viola repeatedly referred to the structures as “tiny sheds,” vexing city council member Kevin De León, who praised a recently opened village shelter in his district. Viola's words echoed a common refrain of activists.

But amid the controversy, the construction of village shelters in L.A. matches their growing popularity, including another handful in Los Angeles County, at least a dozen more across California, and still others nationwide. Pallet, the company that manufactures the sleeping structures used at Alexandria Park, has built approximately 2,500 shelters for over 90 villages around the country since 2020. By the last national point-in-time count, in January 2020, immediately before the COVID-19 pandemic, there were more than 580,000 people experiencing homelessness in the United States. As the pandemic continues to exacerbate housing insecurity across the country and has led to more unhoused people living on the streets, tiny homes are seen as a speedy and nimble solution to the problem. The discrete units also offered socially distant shelter beds at a time when the virus was causing congregate shelters to reduce their number of occupants—although in L.A. shelters have

now started doubling up residents in the two-bed structures. The tiny home villages are just one aspect of a multipronged effort by L.A. mayor Eric Garcetti to add shelter beds during COVID-19, but their presence throughout the city is conspicuous.

Most Angelenos will encounter the villages only in chance glimpses while moving along the city's streets and freeways. At Alexandria Park, the village's high visibility from the freeway only enhances its inscrutable presence at street level, where it is set back from Laurel Canyon Boulevard at the far end of a narrow park that sits between the freeway embankment and the parking lot of a dilapidated shopping center. Except for a gravel path along the north side that links its two ends, the project occupies the whole width of the park and is enclosed with a chain-link fence. Fitted with white slats, the fence prevents any views through; only the tops of the gables peek out above it.

To get a better look, I met architect Michael Lehrer for a tour. His eponymous firm designed the Alexandria Park village alongside City architects and the Bureau of Engineering. As we walked down the central spine of the linear village—a fire lane that Lehrer Architects reconceived as an organizing boulevard—he described a basic design principle to “create a sense of arrival, a sense of place, a sense of community, some notion of procession.”

Setting aside the guarded, nondescript gate through which I entered, I could see Lehrer's vision had come to fruition. The loosely curved lane runs between outdoor seating areas and is intersected by perpendicular blue paths that organize the rows of shelters. These blue bands crisscross the lane in a collage with geometric patches of color splayed out from the handful of painted structures. The judicious use of color goes a long way in breaking up the monotony of 100-plus identical structures. Manufactured by Everett, Washington-based Pallet, these units were preselected in the city's initial bridging document for the project. In fact, Pallet's structures were used for all the city's tiny home village projects, including the four others by Lehrer Architects. (Alexandria was their second.) Pallet's shelters are made of structural aluminum framing with composite FRP panels and a proprietary composite on the flooring. The 7.5-by-8.5-foot footprint (there is also a 7.5-by-13.5-foot, four-bed version) derives from sizing the panels to flat-pack into a shipping container.

With these buildings a given, the architects' influence at Alexandria is most apparent in the layout of the 17 side streets

along which they stand. Again, paint does the heavy lifting. Lehrer described the use of color in terms of “the music of city making.” The few painted shelters are placed near the road for visual orientation as one walks down the lane. While the blue bands “give form and measure to the street, they define the ground plane, give it scale, and project each neighborhood street onto Main Street,” Lehrer said. Townscape in miniature, in other words.

The temperature was in the high 90s on the day I visited, so most residents kept to their air-conditioned rooms, but during lunchtime there was a convivial atmosphere in the shade of a marquee tent that had been set up over one of the seating areas. Residents sat at tables reading or chatting in small groups. Reps from a cell phone company were distributing free tablets. A resident named José sat singing along to music in his earphones and smoking a cigarillo. “Talking for myself,” he said of the village, “I think it's a blessing because we have shelter, we have food, and the most important thing is they can help you stay away from drugs and bad people.”

José told me he had lived on the streets since 2017, mostly in a different park a few minutes up the freeway, until moving to the Alexandria village about seven months earlier. That's well over the 90-day stay the villages are meant for, which evidences the most significant criticism of the tiny home village program. Beyond issues with the size of the shelters or their construction and administrative costs, there is legitimate concern that L.A.'s recently built shelters are not working as intended—to provide temporary shelter on the way to permanent housing. According to the latest data, the average length of stay in the city's village shelters is 119 days, and nearly half of the people who have exited have gone to “temporary situations.”

At Alexandria, I spoke to a resident named Curtis, who said he had been living there for 11 months, unable to find permanent housing despite having a part-time job and having applied for an emergency housing voucher. Curtis expressed discouragement with having to continue living in his tiny home, which he likened to sleeping in a closet.

Simply put, there is not enough housing in L.A. and not sufficient political will to build it. A February report by the city controller was critical of the slow pace of a five-year-old program to build more supportive housing, and the city has come under fire recently for the abysmal rate of placing residents with HUD emergency housing vouchers. Given the city's recent focus on adding

new temporary shelters—tiny homes as well as converted hotel rooms and congregate shelters—the situation contradicts the housing-first policy to which the mayor committed early in his tenure.

What most concerns advocates is the fact that all of this coincides with a recent court order by which the city must accommodate 60 percent of unhoused people in each council district before it can legally begin enforcing anti-camping ordinances. Many see the village shelters as part of a push to add temporary shelter beds in various forms to reach that threshold before proceeding to effectively criminalize homelessness.

I raised these criticisms with Lehrer as we sat under the big tent at Alexandria. Although he noted that housing developments in the city often proceed sluggishly—whereas “the waters have parted” for the village shelter projects—his response was one of measured optimism. “None of these things are *the* answer; they are an answer,” he offered. “And hopefully with every passing year, the palette of possible solutions grows and grows.”

Lehrer also stressed that addressing a problem like homelessness requires experimentation: “You're doing it with the hope and expectation that it will work. And the understanding that it might not.” The outlook is indeed uncertain, but it appears that the villages will stay around for a while. Pallet provides a five-year manufacturer's warranty and says its shelters have at least a ten-year life span. As Gykas, a resident I met just outside the gate at Alexandria, jested about the village: “It's like a private jet. But it's gonna take a long while.”

Luke Studebaker is a writer and architect living in Los Angeles.

Facing page, top: At Alexandria Park, prefabricated structures made by Pallet are used, so Lehrer Architects' focused on organization and shared spaces.

Facing page, left and right: Painted supergraphics establish the shelter's side streets and plazas.

Below: The linear shelter is slotted between a freeway and a parking lot.



COURTESY LEHRER ARCHITECTS

Our New Flames

New projects demonstrate how designers in California respond to increased fire risks.

After the 2019 fire season, *CityLab* reporter Laura Bliss surfaced an old quip about California: “Living on land that so readily burns, shakes, and slides was the state’s original sin,” and one day it will teach us a lesson. Given the increased dangers of a growing state plus climate change, it can seem as if the learning has begun. Still, over 39 million Californians call the state home, so the story necessarily pivots from “Should we live here?” to “*How* should we live here?”

Wildfires are a natural and necessary part of a healthy ecosystem, as they clear out dead, nutrient-depleting material, kill diseases, and facilitate germination for many of California’s native species. Their occurrence is heavily influenced by both short-term hourly and seasonal weather patterns and the climate’s longer variations. Recent and projected global warming-driven increases in atmospheric aridity are exacerbating fire-friendly conditions.

In 2018, more than 2.7 million people lived in “very high” fire hazard areas, according to California’s Department of Forestry and Fire Protection. The rating is determined by the amount of fuel produced by the local ecosystem and the probability of ignition due to local human and climate conditions. Over the past 70 years, wildfire suppression has significantly increased fuel and, in turn, the likelihood of severe fire.

Many of California’s foothills fall into

the category of wildland-urban-interface (WUI), where housing meets undeveloped wildlands; fire risk in these areas is steadily increasing. Today’s fires will likely seem relatively mild in the decades to come. Record-breaking wildfires have disastrous effects on human communities, so the question sharpens to something more specific: how to coexist with fire. Four case studies demonstrate our latest answers.

Frame House, Mork-Ulnes Architects
In 2017, Mork-Ulnes Architects (MUA) completed a cast-in-place concrete guest-house next to a wood-framed home in the foothills outside Sonoma. In October of that year, a major fire blew through the area, damaging the main house but leaving the Ridge House virtually unscathed: The chemically inert concrete resisted heat transfer, but the older home’s wood-frame construction was damaged beyond repair.

When MUA was commissioned to rebuild the main house, concrete was the logical choice. The client liked wood but wasn’t ready for CLT. (Neither was California’s building code at the time.) The concrete-glass-and-CMU structure is more economical and airier than its predecessor, and the concrete frame will likely endure for decades, if not centuries.

Casper Mork-Ulnes, who operates the practice from offices in Oslo, Norway, and



San Francisco, hopes that the structure will be there in 200, 500, or even 1,000 years, “like an Italian fortress.” That longevity is a benefit, particularly when you’re building in fire country. “We won’t have to replace that house four times in the next 200 years, or even two times in the next 50 years,” he said.

Analog House, Olson Kundig
In a former logging region of the Sierra Nevada near Lake Tahoe, Olson Kundig designed a home for Greg and Lesa Faulkner on the front lines of wildfire, so fire resistance was an important performance consideration. (Greg leads Faulkner Architects, with offices in Truckee and Berkeley.) The home is grounded by concrete walls that were built with 8-inch inner and outer layers; the interior gap is filled with closed-cell insulation. Outside, the exterior wood soffits are backed by one-hour-rated gypsum assemblies, and the exterior decks are sheathed in basalt stone tile. Above, the roof deck is made of heavy timber, and the roof beyond is protected by crushed basalt aggregate. The wood-framed walls are sheathed in 10-gauge weathering steel. To mitigate heat gain, the steel is furred off the wall, and the gap is filled with rock wool insulation. According to the architects, when acquiring a new fire insurance policy, the house received a

10/10 rating for fire preparedness, despite being sheltered amid a tall pine forest.

Ojai Valley School, Frederick Fisher and Partners

All new buildings in fire-prone areas of California must meet strict building codes and insurance rating requirements that include Class A roof coverings, multipaned or tempered glass windows, screened soffit and attic vents, noncombustible siding, and fire-rated decking. These requirements reduce the likelihood of a structure catching fire. Other commonsense strategies include avoiding deep eaves and wood-framed attics, as well as eliminating areas where wind-borne embers can grow into flames.

After a 2017 fire destroyed a boarding school campus in Ojai, a small city in the mountains northwest of Los Angeles, Frederick Fisher and Partners redesigned the campus with these lessons in mind—less combustible, more accessible. The new buildings have no overhangs, no eaves, and no ornament. It seems that “minimalistic, beautiful design is good for preventing fire,” Takashige Ikawa, a partner in the office, said.

The buildings are clustered around a courtyard with easy fire truck access. They occupy a hilltop site that has been sliced and leveled, resulting in 360-degree views.



Left: At Mork-Ulnes Architects’ Frame House, fire strategy set the form and organization of the new home.

Below: The exterior wood cladding is installed on CMU walls. The architects’ prior Ridge House is visible here.

Above: Olson Kundig’s Analog House is both materially rich and designed with fire resistance in mind.





Above: Frederick Fisher and Partners’ Ojai Valley School replaced its Upper Campus after the Thomas fire in 2017.

Right: The clustered buildings minimize locations where embers can lodge. Fire truck access was also important.



Arriving at the campus requires a 15-minute drive up a single-lane road, so the route was reworked and widened for emergency vehicle access, which is key, Ikawa said. The architects included photovoltaics and robust battery storage to run water pumps and operate the campus when the electrical grid goes down. This infrastructure is expensive but necessary. “Making architecture is expensive,” Ikawa stated. “Our approach is, Without spending too much extra money on special things, how can we design with the budget in mind and still be efficient for fire?”

Esencia, SWA

The WUI is a socioeconomically diverse space: Luxury homes are sited next to commuter subdivisions and low-income rural mountain towns that remain invisibly tethered to major metropolitan areas. Some people can absorb the economic loss of a major wildfire event, but most cannot. A sustainable path forward requires an economical and ethical strategy for mitigating risk. In the foothills between Los Angeles and San Diego, Esencia, an 800-acre master-planned residential community with 2,740 homes, has a robust landscape infrastructure strategy with a maintenance fee shared by the residents. Designed by SWA, Esencia is one of a series of planned buffered communities (14,000 units) set amid

the working ranch of Rancho Mission Viejo. Realized with wildfire in mind, it is surrounded by irrigated orchards and maintained landscapes that separate the community from wildlands. “The fire mitigation zone is a specific, strict thing that encircles the community. [It requires] either a 110-foot or 170-foot buffer, depending upon the risk of fire,” Andrew Watkins, principal at SWA, shared. This approach, along with water reclamation strategies and road infrastructure, creates a safe zone amid an otherwise hostile landscape. Esencia is one of the first master-planned communities to receive the Firewise USA designation, a program administered by the National Fire Protection Association and cosponsored by the USDA Forest Service and the National Association of State Foresters. (The program educates communities about wildfire preparedness and acknowledges proactive efforts at reducing wildfire risk.) Firewise recognized Esencia for integrating multifaceted, science-based fire protection planning—including fire behavior modeling, home construction, community design, and landscape materials and maintenance—into all levels of decision making. Clustering communities and facilitating a collective investment in landscape maintenance enable the residents of Esencia to coexist with fire.

Looking Ahead

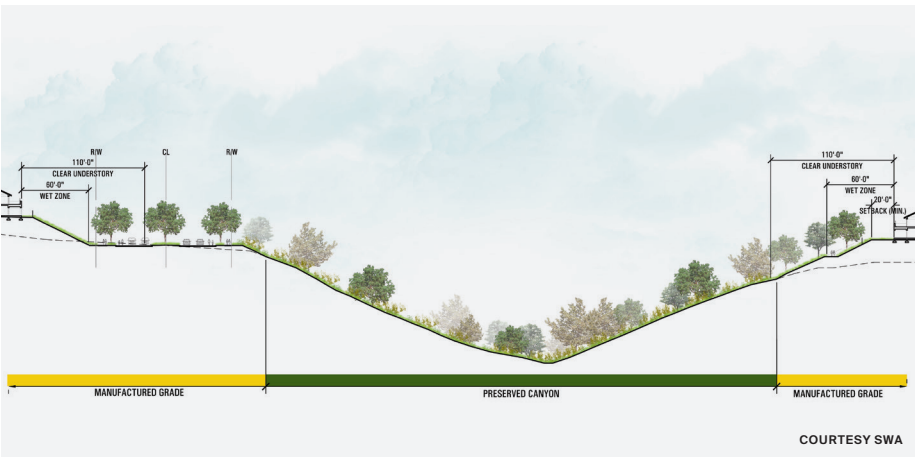
The coming decades will require a nuanced and complex approach that relies on the interdependence between urban, suburban, and rural concerns. California has been in an acute housing crisis since the 1970s. According to research by Dr. Sarah Mawhorter at UC Berkeley’s Turner Center for Housing Innovation, from 2007 to 2017, California had a production shortfall of 1.1 million units. For the past half century, a hesitation to exceed prior strategies has left a deficit of design interventions that adequately address 21st-century problems. While serious restrictions should continue to control where development can take place, “there still need to be thoughtful development and a decent amount of density,” Watkins, from SWA, said. These interventions require interdisciplinary responses. The exciting thing about a crisis is that when one system stops working, another one—more adaptable and ethical—can emerge. Catching up with climate change requires us to work holistically to create new forms of communities, labor, power, and risk. Examples of this can be found throughout the state. In Lake County, Greenville, a town of 1,000, is rebuilding after the 2021 Dixie fire using mass-timber panels milled from ponderosa pine harvested with fire-mitigating forest thinning practices.

The synergy matches construction needs with fire awareness, Tyler Pew of the Dixie Fire Collaborative said. It’s “an approach to construction with mass timber that reduces construction, labor, and increases fire resilience.” In Southern California, Greg Kochanowski, a landscape architect who leads The Wild, a research lab, is exploring parametric insurance models. Such a tool could distribute funds based on climate milestones, releasing money to communities to be invested in mitigation strategies prior to catastrophic events. “The climate is changing rapidly, and we humans don’t have the ability to actually move that fast,” Kochanowski said. “We need to find systems of working that can be much more nimble.” Slowly California is exiting a state of organized irresponsibility and working toward a future of coexisting with wildfires. Architecture in the era of climate change is poised to challenge the way we live and the patterns we inhabit while creating the foundations for a society to come. **Vivian Schwab is a facilitator, designer, and housing justice advocate born, raised, and still living in San Francisco.**



Left: Esencia incorporates buffers and orchards into its layout. A hilltop road links neighborhood centers.

Below: Canyons were preserved, and cut and fill was balanced, making the project more ecologically sensitive.



Gregory Ain, American Pioneer

Ain's interest in affordable housing, prefabrication, and racial and gender equality make him an important figure to learn from today.

Considering the breadth and scope of his creative output over a long and varied career, the Southern California architect Gregory Ain (1908–88) remains relatively unknown, yet his work in the tumultuous 1930s and 1940s encapsulates the extremes of what was perhaps the most dynamic and influential era in the wide sweep of 20th-century American architecture.

Ain’s housing projects attempted to address “common architectural problems of common people.” Together with landscape architect Garrett Eckbo (1910–2000), he developed an innovative approach to neighborhood design that involved the creation of subtle forms of collective spaces in a “social landscape,” through the integration of architecture, planning, and landscape. These extremely successful yet controversial housing projects, many of which were based on the cooperative model, promoting equality and racial integration, fused Ain’s interest in radical left-wing politics and design.

Ain was known for his passionate commitment to progressive politics. J. Edgar Hoover, director of the Federal Bureau of Investigation (FBI), branded Ain “as someone engaged in subversive and dangerous political activities,” and following the anti-communist witch hunts of the McCarthy era, his professional prominence faded into near oblivion. As Anthony Denzer’s research shows, since 1944 Ain was under almost-constant surveillance by the FBI and other agencies: He was followed wherever he went, his mail and phone calls were monitored, and his name was placed at the top of the list of suspected agents to be “rounded up” and arrested in case of enemy invasion. Consequently, although he was never formally blacklisted, it became increasingly difficult for Ain to secure funding for his projects, and his work continued to be closely scrutinized for communist influence. Nonetheless, Ain steadfastly pursued his vision of a cooperative, communal approach to the postwar housing crisis, which stood in direct contrast to models promoted and underwritten by the conventional, consumer-centric, laissez-faire approach to urban development.

Consistently on the front lines in the fight against institutional racism, Ain rejected the government-imposed restrictive covenants of enforced segregation. At his unbuilt Community Homes Cooperative (1946–48) project, for example, Ain and the members of the cooperative opted to let the development fail rather than give in to the demands of the Federal Housing Administration (FHA) to ban African Americans, Asian Americans, and other minority groups from living alongside white neighbors.

Ain also fought the underlying racism of the architectural profession. Beginning in 1939 he shared an office space with James H. Garrott (1897–1991), an African American architect with whom he formed a partnership and collaborated on numerous projects throughout the 1940s and

1950s. In 1946, Garrott became the second African American admitted to the AIA in Los Angeles, after Paul R. Williams. Garrott’s application was sponsored by Williams and Ain. The partners designed and built the Ain and Garrott Studio (1950) in Los Angeles’s Silver Lake neighborhood at 2311 Hyperion Avenue. Unfortunately, this building, which still stands, remains largely unrecognized; it deserves to be properly acknowledged as a national monument to racial equality.

Ain’s deep engagement with political issues informed his approach to architecture and planning, and his skills as a designer enabled him to articulate affordable housing in a way that satisfied residents while reflecting his progressive ideals. Throughout the 1930s, Ain experimented with developing highly efficient plans for small houses. In his proposal for the House for Modern Living competition (1935), sponsored by General Electric, Ain organized the circulation so that the entry hall provided immediate access to the living room and kitchen. In addition, he provided a playroom for children off the kitchen with folding glass panels opening to an outdoor play area on a terrace. Recognizing these features as a significant breakthrough in residential design, Esther McCoy noted, “This was one of the first acknowledgements that children in a servantless house needed play spaces where they could be watched from the kitchen.” She also pointed out that “Neutra and Schindler rarely reached the really democratic approach to the kitchen that Ain found at once.”

In subsequent designs Ain opened up the kitchen and positioned it in the main circulation of the house. This maximized the flow of space and allowed women to be more integrated with social activities in the living room, challenging the sexism of conventional gender roles of the time. Drawing on progressive feminist ideas, Ain developed a plan that sought to integrate housework and child-rearing. He reoriented the living room to face the back garden, creating a “strong relationship to the children’s playroom and outdoor terrace, allowing the children to remain in view of the mother from the kitchen.”

In addition to the open kitchen, one of Ain’s key innovations was the “Flexible House.” As part of a highly compact yet flexible house plan, movable partition walls allowed residents to instantly transform their houses into one-, two-, or three-bedroom units to suit each family’s needs. As families grew and their needs changed, so should their houses, Ain believed. This also reduced costs. Many modern architects insisted on total control of the built environment; Ain, however, through his notion of flexible architecture, provided choices to clients, which was part of the ethics of diversity that informed his democratic approach to design.

Like Rudolph Schindler before him, Ain experimented with ways to rationalize

and simplify standard wood-frame construction. Building upon a body of practical knowledge through experimentation and refinement of construction techniques was paramount in achieving his goal of reducing the cost of houses. For example, once perfected, similar window and door details were used throughout his projects. This approach underscored Ain’s goal of addressing and solving specific problems rather than pursuing arbitrary expressions of uniqueness. Ain consistently argued that his architectural designs were “always intended to be a precise solution to prior stated problems, rather than Architecture.” He was well aware, and seemed prepared to accept, that the result of this approach had “far less ‘eye-appeal’ than contemporary work which may have had a different motivation.” This attitude helps explain why his work often displayed an extraordinary combination of innovation and convention.

The McCarthy hearings signaled the end of a progressive era in the United States. After a partnership with Joseph Johnson and Alfred Day dissolved in 1952, Ain began teaching in the School of Architecture at the University of Southern California. As collective living, public housing, and planning were increasingly discredited by right-wing politicians and the mainstream media, innovative low-cost housing practically disappeared from the architectural agenda in the following decades. From 1963 to 1967, Ain served as dean of the School of Architecture at Pennsylvania State University and published two significant articles on the theory of architecture and the state of architectural education. Following a “nervous breakdown,” he returned to Los Angeles in 1968. Ain died on January 9, 1988, as a relatively unknown architect whose work was largely underappreciated.

Julius Shulman acknowledged that “good design is seldom accepted. It has to be sold.” Neutra and other prominent media-savvy architects in Southern California masterfully orchestrated the reception of their work through the careful staging of photographs—“as deliberately lit as a movie set”—by Shulman, which were published in *Arts & Architecture* and countless other journals. Even though Ain was one of Shulman’s first clients, the job of promoting his own work appears to have been low on his list of priorities. Perhaps to his own detriment, Ain claimed, “Public Relations was never a factor in my practice, which I can illustrate by the observation that a public showing of my buildings has little appeal to me without a prior declaration of the problem to be solved. The camera has never been part of my problem.” Such disregard of the role of the media,

which undoubtedly contributed to the limited dissemination of his work, must have seemed as commercially counterproductive then as it would today.

One can imagine a very different version of postwar America had Ain’s ideas been embraced rather than repressed. In contrast to racially divided urban environments and market-driven tract housing, Ain promoted affordable, well-designed, residential architecture situated in socially inclusive neighborhoods with shared amenities and active public spaces. With his interest in neighborhood planning, adaptive infill of America’s sprawling suburbs, and compact multiunit urban housing, Ain offered a cooperative vision and a compelling way forward.

After generations of architects relinquished all serious engagement with social issues, the problem may well be one of a lack of conviction to create low-cost and high-quality environments for ordinary people, a priority that has only recently been revisited in contemporary architecture. What role might Ain’s work play in instigating a renewed interest in low-cost housing as a vital and relevant means of engaging a broader audience?

If from a present perspective Ain’s politics were on the “right side of history,” in the postwar period he was perceived as a dangerous radical communist. The fantasies of endless resources, which fueled an economic system based on rampant consumption, now appear to be running their course. Given the emergence of a new generation that insists on solutions for addressing climate change and environmental devastation, it is hardly a coincidence that demands for alternative energy are accompanied by calls for a new kind of “shared economy,” based on open sources and mutual interest in the common good.

My engagement with Ain’s legacy operates with the hope that designers may be inspired not only to seek innovative solutions for creating low-cost, high-quality environments but also to address some of the more difficult questions related to inequality and segregation that continue to shape our cities.

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KYUNG SUB SHIN



Above: The Avenel Cooperative, finished in 1948, is a rare example of an FHA-funded multiunit project.



Right: Each unit is 960 square feet, but sliders and a covered patio extend the living area into the backyard.



Left: At Mar Vista, Ain completed 52 1,050-square-foot homes in 1948. Sliding panels enclose or extend interior spaces. The “luxury” homes originally sold for \$12,000.

Below: Eckbo’s landscape encouraged the use of front yards as public space; varying fruit trees were planted to encourage socializing among neighbors.



Facing page: Ain, in collaboration with Eckbo, realized 28 units of single-family housing at Park Place Homes in Altadena; finished in 1947, each was 1,350 square feet.

Below: Each home was “mirrored” about the property line. The landscaping strategy of varied plants and trees in curving beds helps blur the limits of private property.

Right: Here, Ain’s designs relied on a 12-foot module and a single rafter depth. The kitchen opens to the main living space and also overlooks a small front courtyard.



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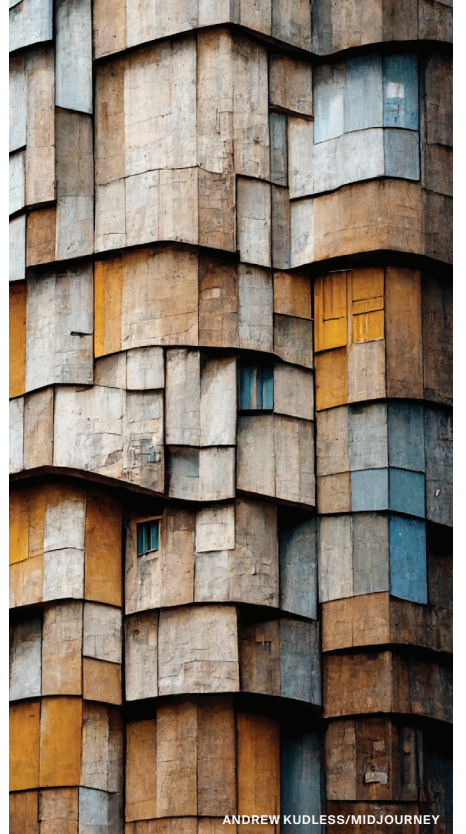
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Dream Worlds

Three experts discuss Midjourney's promise and pitfalls.



This summer, text-to-image AIs have captured the imagination of architects. The software is a powerful tool, but one that should be integrated into ongoing discussions of architectural image making, technology, representation, bias, education, and labor. AN gathered Kory Bieg, Shelby Doyle, and Andrew Kudless to discuss these issues.

The Architect's Newspaper: To start, could you share how you've been using Midjourney and related AI platforms so far? What kinds of explorations have you done? What types of images have you been making?

Andrew Kudless (AK): I've primarily been using Midjourney. So far, it's been for open exploration. I'm trying to understand how to communicate with AI. On one hand, you can write a text and hope to get something that's related to the text. But it's not what a human would understand. The AI acts a bit differently; it's almost like a dialect. So I'm trying to understand: What are the parameters? How might this be useful to me as an instructor or a designer?

It might be useful for exploring an early design concept without having to spend the time modeling and drawing everything before your ideas are fully formed. For the most part, I think a lot of clients might prefer to see these exploratory AI sketches, as it's harder to understand a drawing. The AI is useful in that you can communicate a project's mood and aspiration very quickly.

Kory Bieg (KB): I've been using an approach similar to Andrew's with a number of the AI engines. I've been acting a little bit like an archaeologist, finding things in the images and then trying to figure out how they came to be. You ultimately uncover much more during the process.

I'm currently working on a camouflage series which uses a few terms based on patterns to see what happens with geometry. The output begins with what you'd imagine a camouflage building to look like—colors from army fatigues and even parts of buildings that resemble

tanks. It's clearly taking imagery from other objects that are not architecture, even though I'm asking for a building made of camouflage. But then as you go deeper and pursue the prompt further through iterations, variations, and up-scaling, the images that began as camouflage start to replace pattern with form. The greens and tans become blob-shaped objects which then, after more iterations, become natural materials, like plants and stone.

One of my earlier series used the shape of letters to influence form. Letters have clear formal features that give them definition. I did a whole alphabet, A through Z, using basic text and tried to generate buildings with the different shape features of each letter. I finally strung a few letters together, looking for angular versus curvilinear features that combine into more complex combinations.

Shelby Doyle (SD): I came to AI engines critical of, rather than excited about, what was showing up on my Instagram feed. I wanted to see what would happen using Midjourney and if it would justify my concerns about these tools. I started by submitting prompts like "imagine / feminist architecture," and it gave me back images that were pink and swoopy and curvy. Or I prompted "imagine / feminist architecture interior nighttime," and it gave me images of a bed. My concern is about repeating the biases of existing imagery and architectures. If we're building new architecture or sketching ideas from only historic imagery, then what new methods do we need to avoid these biases? If images that are tagged as "feminist" are pink, then how would future feminist AI architecture escape the trap of being intractably pink? How can we be critical of the labeling and tags in these massive image data sets if we can't access them?

I'm hoping that we can calibrate the data sets we use in the future. In doing so, I'd be more excited about the work. How could you change those inputs to imagine a proactively feminist or antiracist architecture? And what's the imagery needed to create the data set that could produce or imagine a more equitable future?

For this to be a more equitable future, the space where this work occurs needs to change. When I was on the Midjourney Discord channels I saw hypersexualized images of women that don't necessarily break the "code of conduct," but if that's the space I need to be in to use these tools, then I choose not to be, and as an educator I can't in good faith ask my students to be in these spaces either.

AK: I'd say the larger problem is that our data is fed back into the AI's training model. Previously the model was trained on millions of images of real things. But now with Midjourney, the content is yours, but they have unlimited license to use the content—both the prompt and the images—to further train the model. So if the model is being trained on the visual garbage that constitutes a lot of internet culture, then the model is going to get really good at producing that, but it still won't know the difference between perspectival and orthographic imagery. It will likely get good at producing imagery that is sexualized, racist, or violent. Architects are likely a small subset of the people training the model, so we don't have the power to direct the model to go where we want it to go.

KB: It will be interesting to see what happens when there are more AI models to use. Now there are only a handful, but within a few months there are likely to be dozens, if not hundreds. I hope one of them will allow you to train the model with your own data set and image tags. Using your own terms to tag images will open a whole new way to collaborate and to control the output. A group of people with expertise in a specific area or with a shared agenda can agree on terms that are not only generically applied. Windows might not be the best classification for windows, for example—the potential to add specificity would be incredibly productive.

AK: There's the image generation, but there's also the text. Platforms like Midjourney and DALL-E focus on text-to-image generation, but they rely on the underlying translation model

that can also work in reverse: image to text. You can take a text and generate an image or take an image and generate a text; these models work between the two formats. Recently, Kyle Steinfeld at UC Berkeley fed the AI an image to understand what it sees in the image, and this helps you understand the biases. Steinfeld uploaded an image of Louis Kahn's Salk Institute, and the result came back as "concrete bench"! He also uploaded Herzog & de Meuron's bird's-nest stadium in Beijing, and it said, in response, "Zaha Hadid." There are some strange relationships built in; it looked at something vaguely organic and immediately associated it with Zaha Hadid. You begin to see the limits of the AI's understanding of the world.

KB: I try to avoid working with names or styles. I've found that if you want a building that looks like it was designed by Zaha Hadid, you should describe the architecture and you'll get more interesting results.

AK: On the other hand, at times it feels a bit like sorcery. I was working on something where I wanted a flatter, more elevational view, so I thought, "How do I produce this"? How do I describe a photograph of something that is more of an elevation and not a perspective, something like an Andreas Gursky photograph? I put his name in, and all of a sudden the quality of the image skyrocketed as the AI understood what I meant. This happens all the time when speaking to other architects: We use shorthand terms and references to other architects' or artists' works to quickly communicate an idea. It's amazing and a bit scary that this also works with these diffusion models.

SD: One of the challenges is that images going into the models seemed to be pulled from mostly renderings or photographs which preferences a perspectival view. You're not getting a lot of windowsill details or plans—other than the most famous or well-documented projects—so much of everyday architecture is excluded from the model.



Facing page, from left to right: Sketches for a sagging facade, a facade study with people, a vault study, and a fabric facade study.

Left, clockwise from top left: Two sketches from a camouflage series, a sketch from a vault series, and a sketch from a concrete letter series.



I wonder what that does to how we understand what constitutes architecture and architectural knowledge? It's partly a machine learning [ML] issue: There isn't a well-labeled global data set of every architectural floorplan for the machine to "learn from," meaning that there are entire bodies of space-making practices that don't lend themselves to being documented for use in ML or AI. What about images that are embedded with information about material extraction or labor abuses or supply chains? Or building practices that rely on oral traditions or teaching through construction? Architecture has a lot of strains of knowledge to offer, but if it isn't cataloged in a specific format, then it doesn't become part of these AI models.

AK: I think we might be too focused on the immediate explosion of these text-to-image AI uses, because it will become a small part of how AI is used. AI is already in use in architecture, but we don't talk about it because it was previously seen as unimportant. In rendering, for example, you could spend an extra ten hours getting the light simulation to be perfect, or you could stop it after an hour and let the AI blur things out. This is at the tail end of the architectural process, and it's the default in a lot of software.

Then there's this other middle ground which isn't captured in text-to-image AI but that people are working on. Like testfit.io, which is development-heavy explorations of zoning codes or office layouts. It's not flashy, but, like what Shelby mentioned, they're trying to build on the wealth of knowledge that the industry has produced.

SD: I just spent two days trying to figure out a window detail for a 3D-printed house project and I'm wondering if there are ways to harness AI more effectively in producing technical drawings: to call upon the collective knowledge of every waterproofing detail that has ever existed and say, "Here are six ways to solve this based on all of the knowledge that has come before you." Maybe that's the latent potential of computational design—the possibility of navigating competing outcomes

across massive data sets: affordability, buildability, sustainability, etc. Producing representations beyond perspectival image making is an exciting possibility for AI in design.

AK: Another part of the educational aspect is that it's hard to develop a design sensibility as a student, because it requires a lot of failing. I would love to find ways that we could use AI to help designers develop a design sensibility faster. Kory, you mentioned in your prior article for *AN* that you had created over 11,500 images using Midjourney. I've made around the same number of images. While our data is training the AI model, it's also training our brains and hopefully in a positive way. You're constantly asking, "Is this good?" You're presented with four images, and your brain has to make a quick decision about why one is better than the others. Sometimes it isn't good, and I need to go back to one of the earlier decisions. It might be helpful for students to look at something and make a decision. That's not risky, right? When you're asked to make ten study models, there's a certain amount of risk involved. But if you're constantly looking and judging, it could develop interesting pathways in your brain regarding what you value aesthetically in images. That might help you in the real world, where you can look at something and decide which is the best direction to go from here.

SD: As a teacher, it's useful to encourage students to consider that we are all part of a lineage—or dozens of lineages. How can each of us work within, or against, these lineages of knowledge? How can we better recognize the enormous collective knowledge and labor of architecture as a way to keep challenging ideas of solo authorship and reconsider ways of making, building, and thinking about architecture and technology? AI in a way makes the very idea of working "alone" impossible, and that's a refreshing idea.

KB: It would be useful to be able to converse with the AI so that you'd be able to edit the infor-

mation while also feeding it information. One of the problems that I have as an educator is that I was trained in a specific way, so my knowledge is limited to what I've learned. But if I could start to connect what I know to other data sets with other histories and references, then cross-pollination can occur. Also, I might have students who gravitate towards specific interests that I don't know enough about, so it would be amazing to direct them in a productive way toward this other information and knowledge, which could be accessed in a conversational manner with AI that is open and not opaque.

AK: There's something there about the ambiguity of the images that Midjourney produces that is positive. Some of the concern previously was about deepfakes and making super photorealistic imagery. But now it reminds me of Piranesi's prisons, where there are things that don't make sense. Those are the images that I find most interesting, the ones that look a bit real but they're actually ambiguous and vague. That's a positive thing for students, especially early in individual designs or in one's career, because this leaves so much more for you to think about.

SD: Maybe one of the challenges of these AI images is that the depth and complexity of the imagery appears simultaneously finished and fantastical. Perhaps there needs to be some distance between the representation and the "thing" being represented—which I think is architecture. Maybe these are not renderings of architecture?

AK: A lot of people interpret these AI-generated images as renderings. Normally, renderings come at the end of the process when things have been resolved to a certain extent. I've been calling them sketches.

Everything that rendering engines are good at, the AI is bad at. Renderings are good at taking the geometry of a model and precisely rendering that in 2D space. They're also very good at accurate shadows. Unless you're an expert,

it's incredibly hard to capture the mood or atmosphere of a space. To Shelby's point about photorealism, it's incredibly valuable to have the ability to see an image that captures the mood of a space early on in a project. You don't have to spend 20 hours texturing and lighting and processing the model just to realize, "Oh wait, there's not enough light in my design." I've always resisted mood boards because they felt like a collage of disparate elements, but with these AI images we can create a much more synthetic and cohesive image that evokes a quick ambient or atmospheric sense.

SD: Like an AI Pinterest!

AK: When you start a project, you might have a precedent that's inspiring or a set of materials. This is a tool that allows you to combine these elements synthetically without worrying about geometry or sizing or texture. It's incredibly hard to get the weathering of materials right in renderings, for example, but the AI, while it might get geometry or shadows wrong, can evoke time or weather. That's hard to do in a normal rendering.

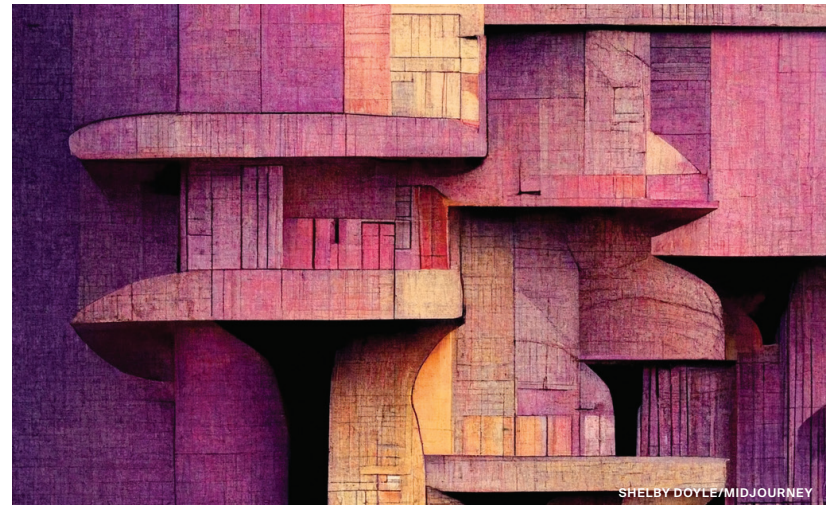
KB: I love this idea of collage, because with a diffusion-based AI, you start with a cloud of pixels that come together to form an image of a supposedly 3D thing, but in reality, it's not so clear. As an exercise, I took one of my favorite images from Midjourney and tried to "dimensionalize" it as a 3D model—it doesn't work. Things just don't come together cleanly in 3D. Gaps start to form, parts have to stretch to meet up with other parts, it's impossible to find a view of the 3D model that matches the 2D image. For that reason, it's better to think of these images as sketches. You have to rip these images apart—like a collage—and then combine them in new ways.

SD: I think collage is an apt metaphor. If you imagine these not as renderings, but as a collapse of image and movement and time, then they become something else. It would

Dream Worlds *Continued*



SHELBY DOYLE/MIDJOURNEY



SHELBY DOYLE/MIDJOURNEY



SHELBY DOYLE/MIDJOURNEY

Far left: A sketch with the prompt “architecture feminist glass interior day”

Above: A detail of a sketch with the prompt “feminist parametric architecture”

Left: A sketch with the prompt “feminist architecture interior space nighttime”

be interesting to avoid trying to slice a plan through one of these images, because it’s not really an object—it’s not representing a static moment or a thing.

AK: In the same way that it’s hard to model a sketch, right? Sketching is about imprecision. It’s about gesture, trying to capture a moment and a feeling of a project or to work out an idea quality. The value isn’t in the precision.

KB: As these AIs proliferate, each will have their own advantages. Midjourney might be used for sketching, and DALL-E for creating iterations of a project that’s already designed. You might use Stable Diffusion to change your prompt midstream. If you think, “I’m on a bad path; I want to go a different way,” you can change the text and the direction of the output.

AN: It’s good to get over the immediate excitement of this image generation and to think more deeply about how it becomes another resource that enters the tool kit of image fabrication. You might see a lot of these pinned up for a first critique, but maybe that dissipates over a semester.

AK: Shelby mentioned embedded labor, in the sense of how much time it took to produce a certain building and who is doing the work, but I also want to talk about how this relates to the labor of our own discipline. When I first started in architecture, I would spend countless hours getting rid of the background of a tree in Photoshop, then scaling it and pasting it and changing its hue and saturation to match the background. It was incredibly tedious and mind-numbing, and I was barely being paid to

do any of it. Just making images takes a long time. It has gotten better, with 3D trees and 3D people, but there’s always that moment when you’re done with the rendering and someone comes over and says, “Can you put a different person in there?”

Photoshop already has some AI tools, and their improvement will reduce the labor of being an architect. With the amount of training we have, we shouldn’t be spending our time Photoshopping a tree into an image. That is something that AI is much better at doing. It would make the lives of many architects better if we could get rid of the tediousness of making decisions about these kinds of things that ultimately don’t matter, but that we obsess over. We shouldn’t be spending as much time as we do on design; we should be better at making decisions faster, and our tools should help us make those decisions.

AN: Thinking about larger trajectories of computation and the use of technology in architecture, what technology should architects be experts in? How would you place text-to-image AIs in the larger ecosystem of architectural technologies?

AK: These AI platforms are more accessible than a lot of the software that we use. I think that’s a good thing. The sooner a student or designer can produce an image that helps them produce the next image, the better. Typically, it takes years to learn Rhino or Revit, so there’s a slowness to architecture, and a struggle to learn these tools because they’re quite technical. If we can reduce the difficulty of that act, that’s a positive.

I also think that text-to-image AIs help us think about the role of language more than we

normally do in architecture. If you ask students to write a thesis statement in a studio, it’s like pulling teeth; they don’t want to write about their work. But now, through describing their work, as a bonus they get hundreds of images of it. So there’s an advantage to thinking clearly about the works you use to describe your project. That’s interesting, but it isn’t exactly about technology.

SD: We just did a software workflow diagram for this project I’m working on and found it will take a dozen different software and file conversions. But after all that work, our contractor in rural Iowa really only needs a dimensioned PDF that will open on their phone when there’s cell service and a PDF they can print.

To Andrew’s point, we’ve created these enormously complex computational systems that, much like sitting at a chair staring at a computer for 80 hours a week, don’t create healthy work environments. The ecosystem of architectural technologies demands an enormous time and expertise to engage with; it seems that software begets more software, more complexity begets more complexity and more exclusion, and more exclusions mean fewer people contributing to the design discourse. If I’m being optimistic, maybe AI imagery can open up that technical space a bit more? Maybe it means returning to a verbal and pictorial tradition so we’re not creating giant BIM models that need to be chopped into PDFs?

KB: Over the last 20 years, architects started to specialize in certain areas of design. But in the last few years, we’ve started to see a rejection of that. People don’t want to specialize; they want to use every tool and expect

the tools to be easier to use. Renderings are becoming more ordinary, even in their styling. I think it’s because people want to get back to the core of the discipline and don’t want to drift further apart.

Like Andrew said, these tools are accessible. They are going to become more valuable because more people will be able to use them, which then allows for more collaboration. Maybe you’ll no longer need to go to different people for different kinds of expertise. Instead, you’ll all be working in the same design space. And this isn’t just about architects, but also the people we design for. These tools might allow for more coherent conversations with people adjacent to our discipline and other communities. To me, that’s exciting.

Kory Bieg is the program director for architecture at The University of Texas at Austin and principal of OTA+.

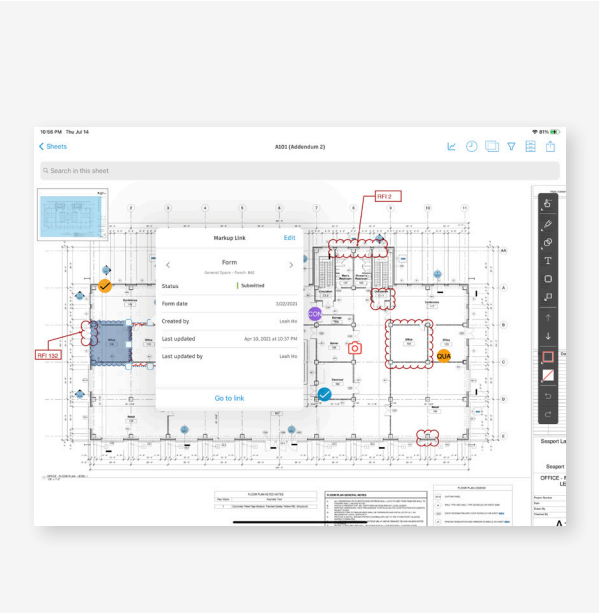
Shelby Doyle is a registered architect, associate professor of architecture, and Stan G. Thurston Professor of Design-Build at Iowa State University College of Design, where she is codirector of the ISU Computation & Construction Lab and ISU Architectural Robotics Lab.

Andrew Kudless is an artist, designer, and educator based in Houston. He is the principal of Matsys and the Kendall Professor at the University of Houston Gerald D. Hines College of Architecture and Design, where he is also the director of the Construction Robotics and Fabrication Technology (CRAFT) Lab.

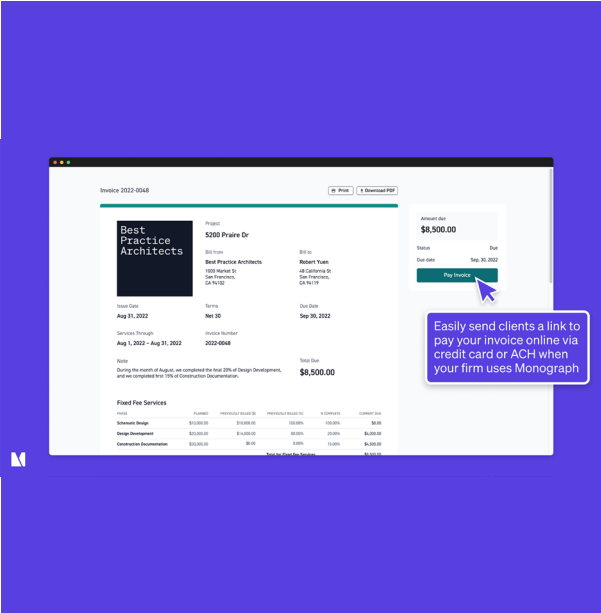
45 Products

Project Management Software

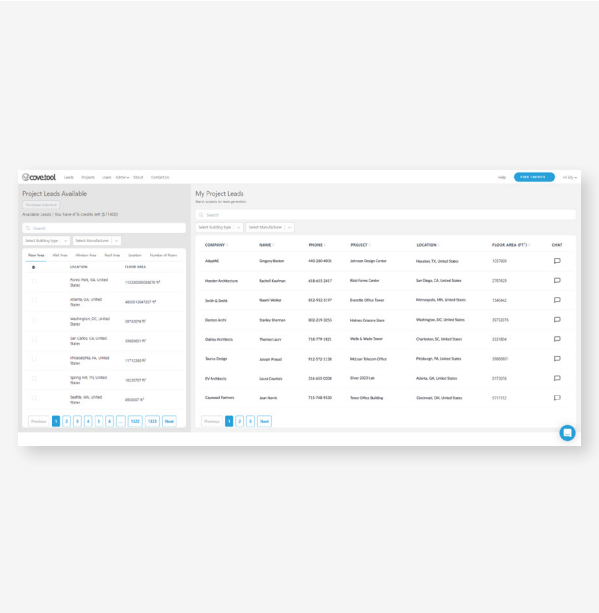
As workplace teams have become increasingly spread out, managing the many moving pieces associated with the design and construction of buildings—and doing so efficiently—is no small task. Fortunately, the tech space has leaned into this challenge and delivered a range of project management tools to facilitate and expedite project workflows. Whether you’re looking to collaborate from afar using real-time data or digital twins, process and track invoices, or optimize labor schedules, the following project management tools and their latest added features will help to simplify and optimize the path to project completion. **Sophie Aliece Hollis**



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On Friday, October 21, *The Architect's Newspaper* presents TECH+ NYC. This forum celebrates the quantum leap of technology transforming the architecture, engineering and construction (AEC) industries. The full-day symposium is a continuation of our national Tech+ conference series, featuring case studies and firms from across the country.

Back in person for the first time since 2019, TECH+ NYC will be a hybrid event hosted at the Executive Conference Center in Times Square and accessible from anywhere via our online platform.

As AEC professionals strive to build more sustainable and intelligent buildings while optimizing the design and construction process, the pursuit of technological solutions is constantly evolving. TECH+ presents the vanguard of products and

software, from virtual reality-aided design to rapid prototyping, additive manufacturing, smart building systems, robotics, remote sensing, and more. Exhibitors will demo these products, showing off the innovative ways to best utilize them. In this ongoing showcase of evolving technologies that drive the built environment forward, we will explore the latest developments with the makers themselves.

A sea change across the AEC Industry has taken place over the past few years. Machine-learning advancements are opening new ways to automate and enable mundane design tasks and support increasingly sophisticated modeling, tracking, building forensics, analysis, and visualization. New ways to collaborate are emerging between designers, engineers, and manufacturers. In response, the way we work—and the

ways in which we present our visions to clients—have become more sophisticated.

Addressing climate change and reducing embodied carbon are key drivers of AEC innovation. Technology-enabled solutions are built into the tools such as Tally, EPIC, and Cove.tool, whose creators will be on hand in NYC.

Our relationship with the virtual world has also changed, from the proliferation of game engines to a great leap forward in visualization technologies and the birth of the blockchain-enabled metaverse. Ryan Scavnicky will lead a conversation on what architecture might look like when these new tools define its creation and what our approach to virtual worlds tells us about ourselves.

Nick Cameron and Bradford Prestbo, national leaders from AIA's Technology in Architecture Practice (TAP) will discuss the evolu-

tion of TAP, their programs, and the technology community's evolution within the profession.

Our Startup Showcase will feature early-stage startups pushing the boundaries of technology for the AEC industry; Individuals from leading design schools like Parsons, Pratt, MIT, and Columbia GSAPP will participate. Sponsors will be on hand throughout the day to present, but also to discuss new tools and how they can be applied to your latest projects.










Microsol Resources' support of this program spotlights industry leaders who not only use these new technologies but also develop methodologies to reshape the built environment. There's plenty to learn, share, and discuss, so join us on October 21.

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TECH+

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Google Power

Heatherwick Studio and BIG transform flat-roof Swiss solar shingles from barn to bay.



IWAN BAAN

Architect: Heatherwick Studio / BIG
Location: Mountain View, California

Landscape architect: Olin
Structural engineer: Thornton Tomasetti
Civil engineers: Sherwood Design Engineers, Arup Civil, BKF Engineers
Building-integrated photovoltaic panels: SunStyle
Envelope/facade consultants: Arup Consultants

Floating within the wetlands of Mountain View, Google's gleaming new headquarters eschews the child's play of Silicon Valley workplace design to achieve something more ambitious. The new campus was designed by BIG and Heatherwick Studio with sustainability in mind, as the effort aims for a LEED-NC v4 Platinum rating. The bold, curving lightweight canopy comes with an even bolder commitment to operate every hour of every day on carbon-free energy, as well as to replenish more water than it consumes by 2030—extending toward the community farther than Big Tech has before.

The table-like, two-story structure sits on 40 acres and the largest geothermal pile system in

North America. The interior layout, while open, is arranged into neighborhoods and includes an events center as well as office space for 5,000 Googlers, all connected by accessible ramps. From the outside, the near-catenary canopies of overlapping gray roof scales are hard at work generating 40 percent of the building's energy; their surface starkly contrasts with the deceptively simple and gleaming white underbelly of steel subframe.

When the roof was being assembled, the largest of three long-span canopy roof lifts set a record for the largest number of strand jacks used at one time in the Western Hemisphere (42). This lift combined 12 large bays of preassembled roof framing connected by 32 long-span "smile trusses." The multilayered complex roof assembly weighed in at more than 2,600 tons of static load.

The manufacturer of the building-integrated PV roof panels is a Swiss company that originally developed its product to be harmonious with historical barn roofing. The allure of SunStyle's frameless shingles was irresistible to BIG, Heatherwick Studio, and Google's designers. "They were designed for farm or warehouse roofs. We needed to upgrade the shingles to handle curvature in both directions,"

Christopher McAnneny, senior associate and project architect at Heatherwick Studio, told *A/N*. The shingles are straight, but the team "effectively redesigned" their subframes to support them on a doubly curved substrate.

Each solar panel is approximately 35 square inches, and the specialized sandwich of laminated glass panels about a quarter of an inch thick. Despite this razor-thin appearance, the tempered glass means the panels are extremely durable, which is important given its need to be walkable for service. The textured glass, manufactured by Saint-Gobain, was redesigned both to accommodate the extensive thermal expansion of the region—nearly 2 inches—and to achieve peak electrical performance with double curvature. The Albarino patterned glass is sandwiched between the shingles and reduces reflectivity, important for Bay View in particular owing to its proximity to a small airport. This glass is commonly used for PV and solar thermal products because of its very low iron content, which in turn increases its light- and energy-transmission properties.

Significant customization was involved, including wider gaskets for seamless connections between the overlaid panels, a new

interlayer of glass, and a standing-seam PV rail system. These advances reveal just how adaptable the Swiss solar shingles can be. Every photon of light is used: Sunlight either seeps through each clerestory window or is reused to generate 4 megawatts of power.

Given water scarcity concerns in the region, Google's Bay View campus will meet 100 percent of the demand for nonpotable water as well as treat wastewater from neighboring sites and return it to the city. The roof's rainwater harvesting helps put Bay View on track to become the largest building to receive the Water Petal certification from the International Living Future Institute's Living Building Challenge.

As of this writing, the second phase of the project, dubbed Charleston East, is about four months away from completion. Like the prior structures, this effort hopes to showcase what Google offers as the future of the office.

Throughout, Heatherwick Studio and BIG cap their lofty workplaces with building-integrated photovoltaics, a move that deeply integrates sustainability into the success of the project.

Katie Angen is an architectural designer based in Los Angeles.



IWAN BAAN



IWAN BAAN



IWAN BAAN



IWAN BAAN

Facing page: Google's complex occupies land next to Stevens Creek as it reaches San Francisco Bay.

Left: The two-story, mat-like organization of the interior uses the table as a basis for its interior neighborhoods.

Above, top: The proportion of clerestory window to solid draped roof was closely studied to optimize working conditions below.

Above, left: A variety of pathways connect workplaces. The roof structure is left exposed as the interior ceiling.

Above, right: The dragonscale tiles will produce 40 percent of the building's energy use.

Smart Prefab

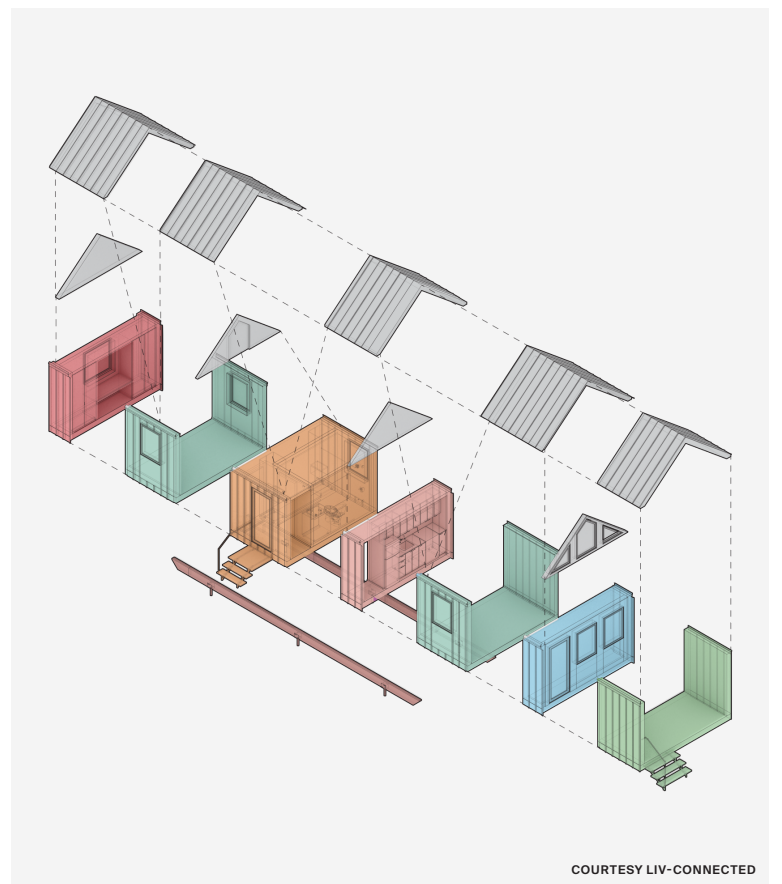
Can Liv-Connected crack the modular housing code?



COURTESY LIV-CONNECTED



COURTESY LIV-CONNECTED



COURTESY LIV-CONNECTED

Liv-Connected, a modular construction company, is hard at work trying to solve the country's housing crisis. Their solution? A customizable, prefabricated home that can be assembled on-site in four hours. The company was founded in 2019 by physician Herbert Rogove—an early proponent of telemedicine—and his son Jordan Rogove, cofounder of the New York City-based architecture firm DXA studio. They are joined by fellow DXA cofounder Wayne Norbeck and Virginia Tech professor of architecture Joe Wheeler. Liv-Connected began taking orders for its homes in June.

Liv-Connected has partnered with Atomic, a company with experience in rapid-assembly structures for live events, to manufacture modular homes in a 110,000-square-foot factory in Pennsylvania's Lancaster County. Liv-Connected currently offers two models to clients, which include both developers and individual prospective homeowners: Conexus, whose base

is a 500-square-foot, one-bedroom home, can be manufactured with additional bedrooms and bathrooms; and Via, which is on wheels and can be towed as a trailer, is a tiny home that contains a living, sleeping, and kitchen space in models as small as 200 square feet. The Conexus model starts at \$150,000, while the Via model begins at \$90,000. The company hopes to offer multifamily units in the future, as the Conexus model can be stacked.

Beginning with an online form that is similar to customizing other types of consumer products, clients can choose from a range of colors and materials for the walls, siding, cabinets, countertops, and floors. Once the design is finalized, the website will generate a PDF for the client and a work order for Liv-Connected in a process that feels "more like a car buying experience," Jordan Rogove told *AN*. Liv-Connected manufactures the component parts of the home, so the bath and kitchen compo-

nents arrive with appliances, and "link" pieces can be added to bedrooms and living rooms to extend room sizes. The whole design and production process can be completed within six months, and once preliminary site work is finished, a one-bedroom Conexus can be assembled in as little as four hours. Given its modular design, homeowners can choose to add rooms after the initial assembly. Liv-Connected estimates that its system reduces construction waste by 90 percent from that of a typical single-family build.

Jordan Rogove said the modular home is not "just a shed on wheels." The components of the home are produced through CNC milling, providing not only "hyper-precise manufacturing" but the potential to scale up production in other factories. Rather than shipping volumes filled with empty space, as other modular construction companies have tried, most of the materials for a Liv-Connected house can be stacked flat

for shipping, saving funds that can be spent on better construction and materials. The company now produces six units per month, but it has contracts for 200 of each home type scheduled for 2023. The company is also one of four finalists for a request for proposal from the State of Texas for 26,000 rapidly deployable homes in the event of a natural disaster.

Liv-Connected also differs from competitors in its healthcare plug-ins. Customers can add a fall-monitoring feature to their home (which uses lidar), and homeowners have the ability to specify whom to call in an emergency. Jordan Rogove said that this is not like "Big Brother," as there is no video monitoring in the home. Systems can be reconfigured as residents and healthcare needs change. Senior project manager Allysa Taylor said that in the future, the company hopes to incorporate more healthcare plug-ins, such as smart mirrors that display live medical data and appointment



COURTESY LIV-CONNECTED



COURTESY LIV-CONNECTED

Facing page, left: The Conexus Home offers a variety of customizable exterior finishes.

Facing page, right, top: A Liv-Connected home can be quickly assembled on-site.

Facing page, right, bottom: The homes are assembled out of a series of components and links.

Top: DXA Studio curated the available interiors packages.

information. These could, for example, be linked to a Fitbit or an Apple Watch. While these features are appealing, they're also arriving in a post-*Roe v. Wade* era in which the ability to track personal health data in the home could have serious unintended consequences.

Liv-Connected also views itself as offering one solution to the ongoing housing crisis. In addition to its low cost relative to traditional builds, Jordan Rogove sees the potential to partner with developers on commercial-to-residential reuse projects. Liv-Connected also anticipates an option in which the company incorporates real estate acquisition into its model. Currently, this is left to clients and third-party partners. Liv-Connected also requires only a \$500 deposit, which can be paid by credit card, and financing is available for Conexus models through Rocket Mortgage, the company's preferred lender. While the homes' costs are below market rate in much of the country, purchasers

of these homes are still subjected to the array of structural risks that exist in home financing. The company has seen interest from developers: While faster construction and lower costs are appealing to homeowners, this speed also interests developers, who see the potential to increase profits.

As Liv-Connected scales up, its appeal to homeowners will only increase. Jordan Rogove expressed a cautious optimism for the future of the company. "There's so much in zoning and the building code that is antithetical to finding less expensive housing solutions," he said. Liv-Connected's offerings stand to be a "game changer." **Chris Walton**

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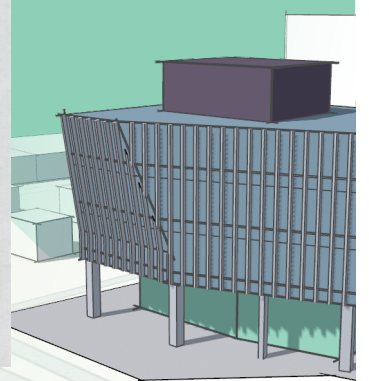
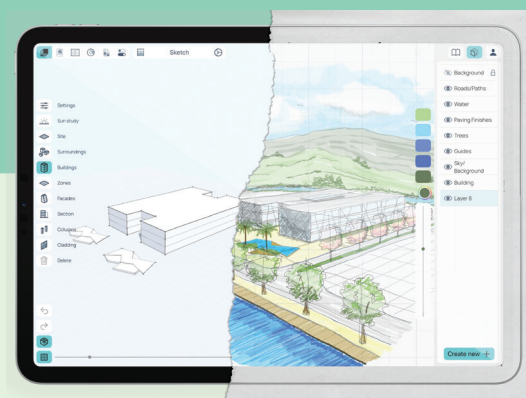
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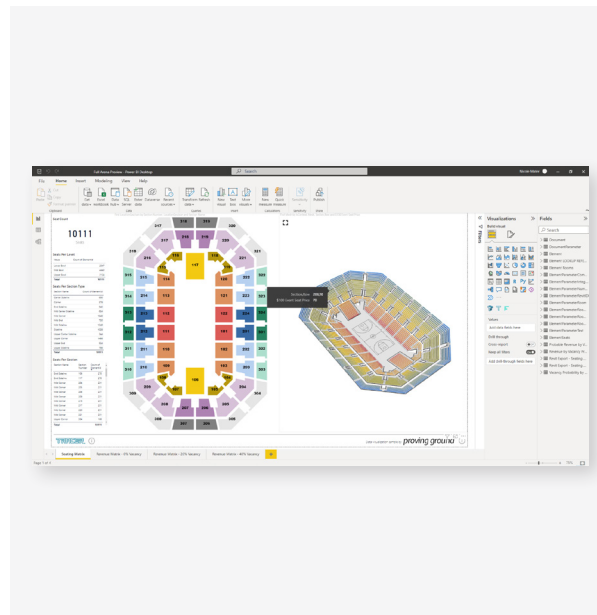
September 2022

Visualization Tools

Communicating ideas via drawings, models, and renderings has always been the main activity for architects. It's also time consuming. As with many other analog processes, technology has optimized these practices, expanding the architect's tool kit for presenting, modifying, and improving upon designs while greatly reducing the time, energy, and cost of doing so. By providing a range of unique visualization services, these products make it easier and more accessible than ever to communicate, iterate, and execute your ideas. Sophie Aliece Hollis



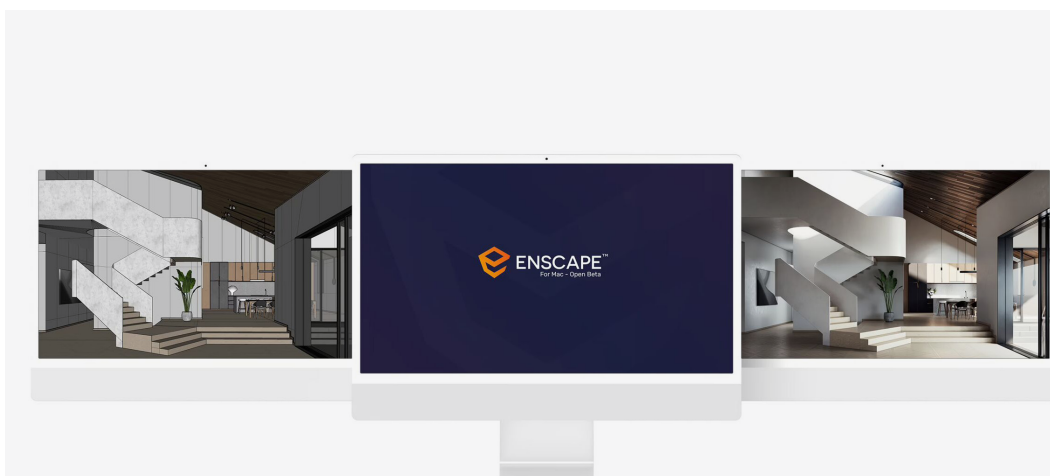
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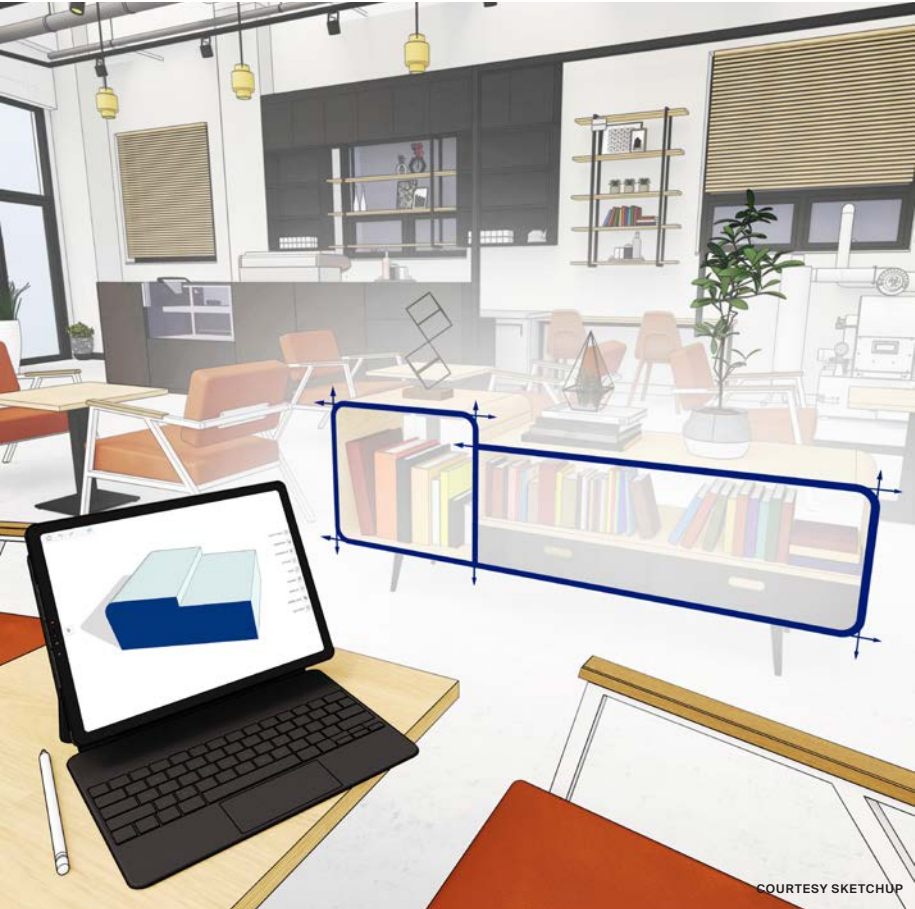
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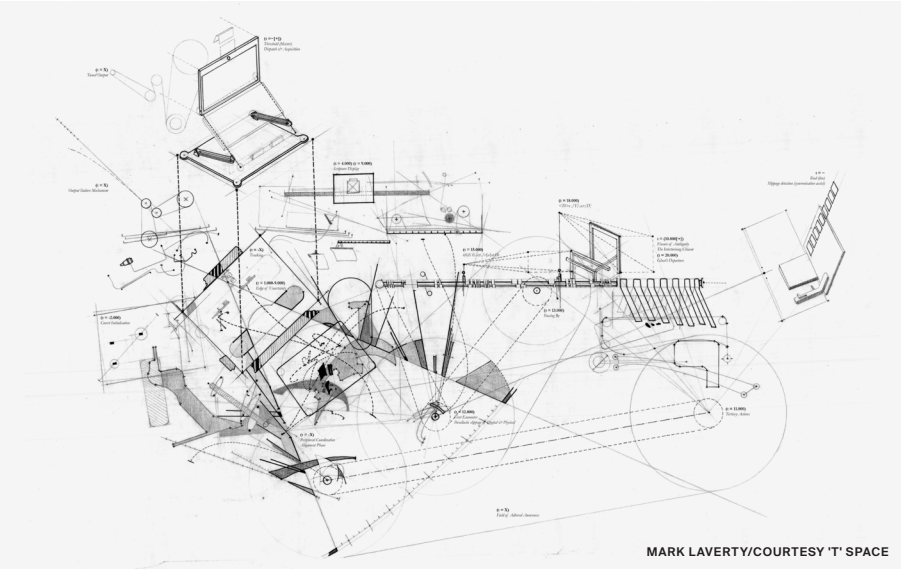
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East

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Although its origins can be traced to the 1930s, the zine didn't come into its own until the punk and postmodern decades of the late 20th century. The form, which celebrated the effervescence of subcultures through brash amateurism, left an indelible mark on the production and marketing of music, film, and comics. By contrast, the zine's effect on architecture was minimal—unless one considers the *Pamphlet Architecture* series. Founded in 1978 by architect Steven Holl and noted bibliophile-turned-bookstore-owner William

Stout, *Pamphlet* is best remembered and loved by the cohort whose outré sensibility it embodied, whose freakish talents—think the young Zaha Hadid and Lebbeus Woods—it enshrined and whose intellectual pretensions it flattered. It's to them, or to their memory (particularly that of the late Kevin Lippert, who agreed to publish the series via his Princeton Architectural Press), that this show is dedicated. Though its best days are far behind it, the project continues: Issue No. 37 is due to arrive this fall. **Samuel Medina**

Southeast

Giller & Giller: An Adventure in Architecture

Jewish Museum of Florida-FIU
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Open through October



Morris Lapidus may have earned the sobriquet "Mr. MiMo," but he had a challenger for the title. Norman Giller is all but forgotten today, but he was pivotal in establishing the Miami Modern (MiMo) style. The Carillon Hotel, opened in 1958, was the best advertisement for Giller's handiwork: Plate glass, accordion wall reliefs, a gingerly canopy, and more were brought together in a recumbent beachfront format. The Diplomat Hotel (also from 1958 but now demolished), whose ballroom played host to a late-career Sinatra,

sported a hyperbolic porte cochere, which soon became a de rigueur accessory for the typology. *Giller & Giller* goes beyond this glamorous duo. Giller was astoundingly prolific, building, for instance, thousands of dwelling units for American military bases. His influence was perhaps most keenly felt in the midcentury preponderance of roadside motels. To his credit, he gave panache and frisson—"floating" staircases abound in his catalog—to jobs that privileged expediency over all else. It's a kind of legacy. **SM**

Midwest

The Almighty Church of Abolition

Space p11
55 East Randolph Street, Chicago, IL 60601

Open through September 30



Those in the know will grasp the polemical subtext here ("Almighty Church of **Abolition**"). How knowledgeable they are about the historical personage at the center of this exhibit, now open at Chicago's minuscule, underground Space p11 "gallery," is another matter. From the hardy revolutionary ranks of 20th-century martyrs, curators Daniel Jonas-Roche and Andrew Santa Lucia (both *AN* contributors) singled out one Alphonse Laurencic (1902–39) for rehabilitation. Working at the behest of Republican Spain amid civil war, the French painter-architect designed prison

cells in the basements of desecralized churches to hold fascist POWs; his work sought to purge detainees of their prejudices. For his sympathies, he was executed by nationalists. Jonas-Roche and Santa Lucia update his scheme for our carceral age using paint, projections, colored glass block, and altered ceiling tiles donned with "nine partially revamped perspectives for prison abolition." They visualize their desires (for social justice or community policing without police) in chockablock fashion here in this subterranean sublation station. **SM**

West

Janna Ireland on the Architectural Legacy of Paul Revere Williams in Nevada

Nevada Museum of Art
160 West Liberty Street, Reno, NV 89501

Open through October 2



In February, the Los Angeles City Council added the endangered home of midcentury architect Paul Revere Williams to its monuments ledger. There is little, outwardly, to distinguish the modest Jefferson Park bungalow, except for the fact that Williams lived there. The move is indicative of a cultural reappraisal of one of America's leading Black architects, who designed thousands of homes, many for Hollywood stars. Since 2016, artist Janna Ireland has crisscrossed L.A. photographing dozens of these residences. Ireland's camera

nestles into the private world of each home while drawing attention to Williams's incomparable ability to inhabit often-disparate styles. Unlike his white peers, who enjoyed the luxury of having egos, Williams conformed his talents to the desires of his clients. For this exhibition, Ireland captures his Nevada commissions, including the bouncy La Concha Motel (1961) and the faceted Guardian Angel Cathedral (1963), both in Las Vegas. And just as in L.A., she foregrounds the grace the architect bestowed on every one of his dwellings. **SM**

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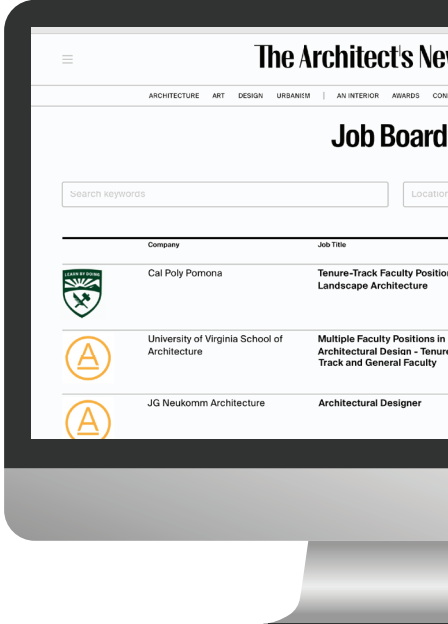
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62 Review

On Bramante

Pier Paolo Tamburelli | The MIT Press | \$39.95

continued from cover provocations, and close and often highly poetic readings of documents, all of which might suggest the book is about Bramante—but which the author tells us at the outset it is not. Instead, the author engages in the honorable tradition of attempting a retroactive manifesto for architecture through an impassioned and obsessive (even paranoid) engagement with existing artifacts in a similar manner to Rem Koolhaas's *Delirious New York* or Robert Venturi and Denise Scott Brown's *Learning from Las Vegas*. The result makes something long gone come alive with new significance through the interpretative and projective act of writing: an act that links architectural design to a larger realm of social, political, and ideological ideas.

Readers are warned at the outset that what follows is not history or the kind of criticism offered by non-practitioners, but instead a book by an architect, about architecture, for the betterment of architecture. It is then, I would argue, a work of theory. The reader is further informed that theory in architecture is by and large the output of architects and that this discourse is more abundant in architecture than in other, more popular arts because architects have a greater need to reflect on the fundamental entanglements with power, money, labor, and politics that define their art more than any other; theory aids this reflection.

In a rare theoretical feat, Tamburelli's argument emerges from his paranoid reflections on Bramante but supersedes Bramante to achieve a more general relevance. The normative thrust of his argument is that the architect today should be a cynical, nonchalant, indifferent, and disenchanting formalist, as well as a cunning opportunist, pragmatist, and political realist, and should aspire to create big, awe-inspiring works whose effort and scale constitutes their simultaneous violence and beauty. The author asks the reader to assume a very different morality from the one that dominates within today's neoliberalism—or, rather, to substitute politics for moralizing. We are told that “in architecture moral questions are always excuses” and that architecture is not responsible for “doing good ... [like] feeding poor children, comforting widows, [or] saving panda bears from extinction.”

Rather, architecture is political “indirectly, *as art*.” Architecture is not responsible for life, Tamburelli writes, because architecture does not determine life. The Foucault of *Discipline and Punish*, he tells us, was wrong: “Architecture has never had this unlimited power.” And so, because architectural form does not “directly” or “entirely” determine how people act, architecture, the author concludes, has no responsibility for whether the acts of individuals are just or good. Instead, the architect, aspiring to making forms and spaces that will ultimately outlast any particular individual, aims to represent the very political problem that defines architecture. In this way architecture would, the author tells us, “expound a more advanced political order” through a rigorous, logical, and thoroughly disenchanting formalism, and such a formalism would enable the architects to both align themselves with power and represent power through their work. Tamburelli's book postulates a politics that runs counter to the prevailing morality that dominates so many



architectural institutions, schools, museums, journals, and associations today.

Yet for all the book's confident assertions about its political convictions, it is ultimately less convincing on some of its philosophical fronts. Tamburelli's historically revived propositions derived from Aldo Rossi and Giorgio Grassi would be more robust if he had engaged in a dialectical and dialogical response to the contemporaneous and subsequent criticisms of these arguments, including that form *does* relate to behavior, but that it does so indirectly through evolving habits of use. Similarly, Tamburelli asserts that High Renaissance classicism, properly understood, constitutes a neutral framework that is universally relevant and open to all, when decades of feminist and postcolonial theory have contended that such universalism coming from European humanists was, in fact, a disguised Westernism. Tamburelli is not ignorant of postcolonial theory, but his text does not address it directly enough. His response is to say that while universalism certainly accompanied colonial violence, it is not reducible to it, and that its promise of freedom and equality is better positioned to prevent further violence in the future than a tribalism of difference. This response might seem insufficient in the eyes of postcolonial

critics who would, I expect, argue that there was never a period in which colonial violence was complete, but that it has always been continually reproduced by cultural dispossessions that deny local cultures their differences. Such critics would argue that European classicism's claims to universalism are a persistent embodiment of neo-colonial violence. Tamburelli's position is worth reading, but his critics deserve more than a paragraph if his arguments are to persuade rather than simply decide.

On Bramante is strange because its voice and genre shift in unusual ways. Many of its footnotes show Tamburelli's extensive knowledge of existing literature on Bramante, with their parallel commentary on minor matters which ultimately lands as gratuitous. Yet at other times, any semblance of scholarly protocol is completely abandoned: In many instances, sentences or even entire block quotes are placed within the text (as if they were the author's own). Their citations are given, but without commentary or evaluation, the voice of the author is collapsed into the voices of those he is citing. The more distinct impression is that one is reading a work of literary fiction rather than a work of scholarship.

In many ways Bramante is the perfect figure upon which to base a theory

of architecture, precisely *because* we have been left with so little textual documentation about his work and thought. (While on the original bus tour, the running joke of the trip was the number of times Tamburelli and his colleagues repeated the phrase “This is *possibly* Bramante.”) No doubt there is some truth in Tamburelli's Bramante; as a talented interpreter, he has constructed a plausible Bramante, who was indeed less educated than other architects, who aspired to large-scale constructions, and who clearly engaged with power, money, and politics in his relationship with Pope Julius II and in his work on St. Peter's. What is less plausible—and what art historians might reject—are the philosophical conceptions of space, perception, experience, and meaning that Tamburelli foists upon him.

While the genre of the retroactive manifesto is the model for Tamburelli's project, there is one important difference for *On Bramante*: the absence of concrete design projects. Tamburelli acknowledges that “there are no practical proposals to be found here.” Given this absence, one is left to assume that the example this theoretical text aims to support is that of Tamburelli's own practice baukuh. But without constructing a more explicit link between the theoretical argument of the book and his work, Tamburelli avoids difficult questions that require answers if his theory is to become legitimized as a theory by an architect about architecture for its improvement.

To what degree can an architecture composed of orders and constructed in a context in which it could be spatially generous only because it was built by powerful aristocratic families, princes, and popes be used as a model for today, a time in which architecture is built without the articulation of classical orders, is possessed by varying social classes, and maintains no patrons who are interested in paying for the generosity of abundant, undetermined voids? What happens to this attitude now that architecture is performed as a technocratic endeavor in which functionalist and problem-solving attitudes predominate within a service-oriented profession? Tamburelli has not yet engaged with these questions.

The book might more accurately be called *Under Bramante*, as Bramante, not eclipsed by the author, remains the dominant figure. We await, I think, a book that extracts the central theoretical propositions this engagement with Bramante produced and that moves out from under the shadow of Bramante. Such a book would push ahead on two fronts: on a philosophical front to elaborate a response to more difficult philosophical disagreements over the various claims about perception, experience, and meaning being asserted; and, on a design front, to articulate more explicitly how a method of design can be wedded to this theoretical construction. Without the latter, theory cannot have widespread purchase and persuasive power within the field at large, and without the former, it cannot be robust and lasting.

Joseph Bedford is associate professor of history and theory at Virginia Tech, the founding director of the Architecture Exchange, and the author of *Is There an Object-Oriented Architecture?: Engaging Graham Harman*.

63 Review

When Eero Met His Match: Aline Louchheim Saarinen and the Making of an Architect Eva Hagberg | Princeton University Press | \$29.99



In January 1953, Aline Bernstein Louchheim, an art critic for *The New York Times*, started working on a profile of Eero Saarinen, the Michigan-based architect who was beginning to develop a national reputation. As she got to know Saarinen, Louchheim fell in love with him, a process documented in an extraordinary series of letters in which she surrendered all pretense of journalistic neutrality. In one February letter, she casually mentioned making love to him; Saarinen replied that at their next meeting he was going to give her “two spans.” The *Times* article, published on April 26, 1953, noted that “behind square, black reading glasses, his very pale blue eyes are intent and searching.” Within months, Louchheim, a divorcee, was referring to Saarinen, still married to the mother of his children, as her husband. He became just that in February 1954.

“I hope that my readers are somewhat shocked to see how intimate this supposedly neutral journalist was with her subject,” writes Eva Hagberg in her new book, *When Eero Met His Match: Aline Louchheim Saarinen and the Making of an Architect*, published this month by Princeton University Press. Yet Hagberg herself isn’t particularly shocked. She describes her own early days as an architecture writer as a free-for-all in which editors turned a blind eye to her acceptance of largesse from publicists. “Even the *Times* understood that freelancers needed to get access to stories somehow,” she writes. And so, “There I was, in Miami, on a free trip sponsored by someone related to Art Basel Miami Beach, while getting a free massage from another PR company.” Hagberg had no one to turn to for ethical advice, because her colleagues were also her competitors. “But,” she writes, “I had another mentor. Someone whose practices I could copy and someone whose methods I could adopt. She was dead, but that didn’t matter to me.” And so, in difficult situations, Hagberg found herself asking, “What would Aline do?”

(For the record, during my decades as an architecture writer, which overlapped with Hagberg’s, no *New York Times* editor

was ever nonchalant about reporters accepting free travel.)

There’s a lot about Hagberg in the book, from her professional history (at one point she ran “an anonymous architecture gossip blog”) to her medical travails, including brain surgery, among other episodes: “I’d suddenly become allergic to my home: first just my bedroom, which had pockets of mold growing on almost every surface, then my entire apartment, and then, seemingly, the city of Oakland.” (She fled to Arizona.) If Louchheim had allergies, we aren’t told, but the lives of author and subject unfold in parallel.

After marrying Saarinen, Louchheim became his mouthpiece, leading Hagberg to dub her “the first architectural publicist.” Hagberg herself moved from journalism to PR, grossing as much as \$400,000 a year, she writes, representing Bay Area architects while keeping her role mostly secret from her journalist friends. Just like the new Mrs. Saarinen, who alternated between seducing and schooling her husband, Hagberg took pleasure in her push-pull relationships with her clients, almost all of them older men. “I pretended to be less organized than I was; I told unrelated personal stories in meetings so that they would feel my relative youth,” she recounts. When she expressed strong ideas, “I had to always, just as Aline had, temper it with femininity.” And when trying to get a client to agree to a hefty fee, Hagberg expressed doubt about whether he could afford her services. “It was the most emasculating way I could have come at this, and it worked.” Nice!

Hagberg says she got “too close” to her clients “partly because, as a codependent person, I’m bad at boundaries.” She “started to create a certain intimacy with [her] male clients, an intimacy that never crossed the line into the sexual, but that became nevertheless a form of the erotic.” Eventually, she became disenchanted with those same clients. “Some of them, it seemed to me, were trying to work out their personal issues through me,” she writes, without a trace of irony.

Followers of Hagberg won’t be

surprised by the autobiographical departures. Hagberg’s articles, whatever their ostensible subjects, are often about Hagberg. Sometimes the results are dazzling. But commandeering a book on a historic figure published by a major university press feels a bit self-indulgent.

Luckily, Hagberg delivers a serious thesis: Architects become known not just for their buildings but also for the stories told about those buildings. She argues that the highly literate and media-savvy Louchheim created narratives about Saarinen’s buildings that stuck. In a laborious parsing of media coverage of Saarinen’s work, she traces a direct line from language generated by Louchheim—in preparing Saarinen for interviews and in talking up his work to journalists—to the quantity and quality of coverage the architect received. He even made the cover of *Time* magazine in July 1956, two years after the couple married. Much of Saarinen’s acclaim, Hagberg believes, was due to Louchheim.

Hagberg may be overstating her case. She notes that coverage of Saarinen’s Kresge Auditorium at MIT was less exuberant than that about his TWA terminal at JFK a few years later, even though the auditorium “is objectively as thrillingly designed as” TWA. Objectively? TWA is a far more exciting building, and it’s in the country’s media capital, two (of many) possible explanations for the more fulsome coverage it received. But Hagberg believes the crucial difference is that Louchheim was around to promote TWA but not Kresge.

In a brochure she produced, Louchheim compared the TWA terminal to a bird in flight. In Hagberg’s view, that brilliant analogy excited the press, which repeated it in hundreds of articles. “It will become clear through my analysis that it was Louchheim who introduced the idea of the building being seen through the metaphor of soaring wings, and that she maintained that singular idea through a number of publications,” Hagberg writes.

But anyone can see that the building resembles a bird.

The bottom line for Hagberg? Louchheim’s role is repeatedly overlooked by “historians of Saarinen [who] are unable to see her as contributor/collaborator. ... Over and over and over again—she is elided altogether or identified (or misidentified) and then not fully acknowledged.” In fact, there were times when historians and journalists seemed to elide her to protect her from the consequences of her bad judgment in playing both sides of the journalistic fence—she didn’t resign from *The New York Times* until 1959.

But it’s not enough to attribute Saarinen’s success to his second wife’s PR prowess. Why not go all the way and attribute his architectural achievements to her, too? Hagberg tells us that photographer and memoirist Richard Knight noted that in the 1950s “Saarinen’s form-making changed,” but Knight “overlooks another important element contributing to this shift: Louchheim.” Hagberg adds that “while [Saarinen] of course had his own creative ideas and exploration, this is also the period in which Louchheim fully mobilized herself.” In other words, she was the wizard behind the curtain. The project of obtaining recognition for women who worked behind the scenes is important (I’ve been participating in it for years), but not every male architect deserves a take-down via innuendo.

One can’t not admire Hagberg’s honesty about herself and her work: “I don’t know that history is ever supposed to be a project of figuring out what ‘actually happened,’” she writes. And, she concedes, “some of what I argue or have written is a process of retroactive fitting in of an argument.” She calls that argument “gendered invisibility.”

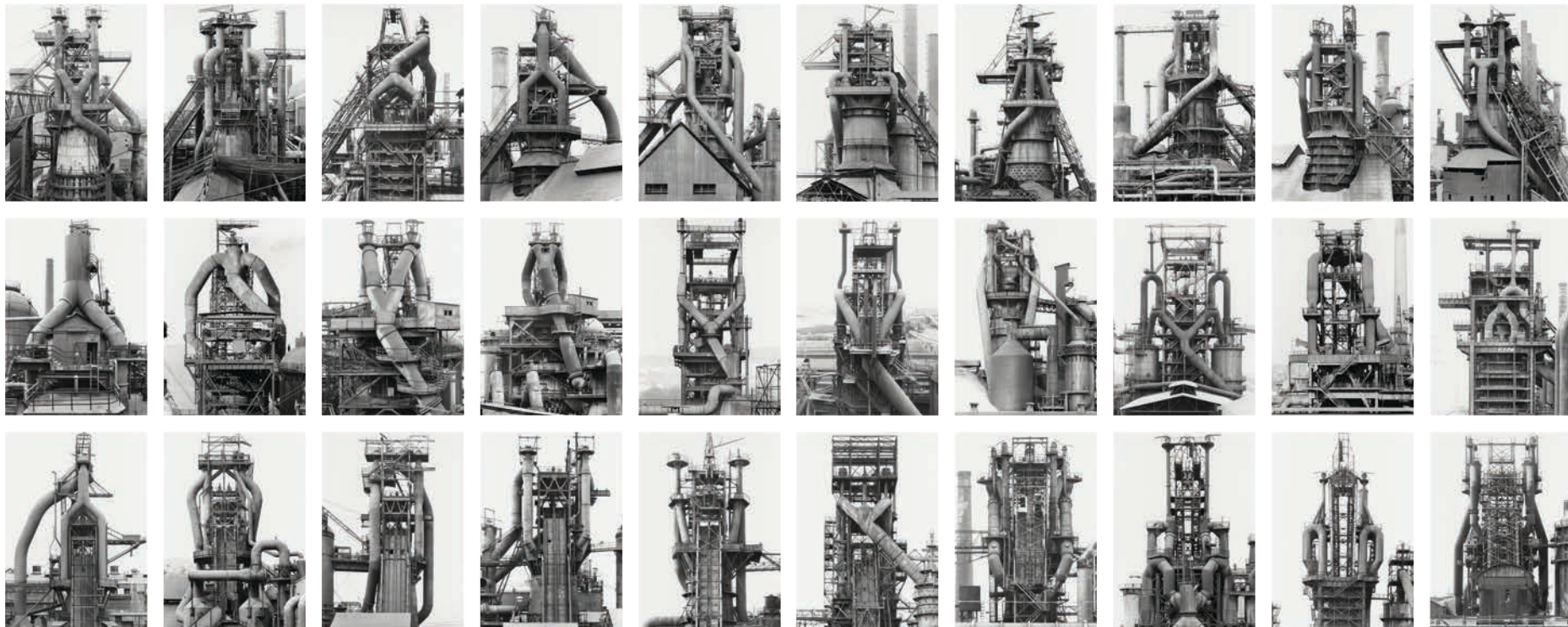
Some of the complaints ring hollow. Arguing that few women architects run firms without men in positions of power, she overlooks California’s estimable Barbara Bestor and New York’s Anne Marie Lubrano and Lea Ciavarra, who, a few years ago, helped add a hotel to Saarinen’s TWA terminal, a hotel Hagberg mentions in the book. Perhaps even more disturbingly, to make the case that Louchheim’s role was unique, she dismisses the contributions of other architects’ wives, including Maria Stone, the second wife of Edward Durrell Stone, and Olgivanna Lloyd Wright, the third wife of Frank Lloyd Wright. Stone is described as someone who got “publicity by selling details of a private life.” As for Olgivanna, we are told that she has “generally not been taken seriously by scholars or historians.” The media covered her, but “all of the attention was about her personality, not what she did for Wright.” But, as Hagberg has herself stated, media coverage does not always reflect the truth.

Happily, we now know more about Louchheim—especially her role as a publicist—because Hagberg’s recounting of her own story helps us put her predecessor’s in perspective. And that, presumably, was Hagberg’s goal.

Fred A. Bernstein studied architecture at Princeton and law at NYU and writes about both subjects. He lives in New York City.

Bernd & Hilla Becher

The Metropolitan Museum of Art | Open through November 6



© ESTATE BERND & HILLA BECHER, REPRESENTED BY MAX BECHER

As Reyner Banham recounted in *A Concrete Atlantis* (his last book, and one sparked by his professorship at SUNY Buffalo from 1976 to 1980), images of factories and grain elevators in the American Midwest proliferated in trade publications that reached architects in Europe who were excited by their “primitivism,” perhaps like the way European artists viewed African art. Some were also collected by Alma Mahler, who sent them back to her lover (and future husband) Walter Gropius, who published them with his own writings. In 1923, Le Corbusier included some of these same snapshots in *Vers une architecture*, celebrating the silos and factories as “*mag-nificent FIRST FRUITS of the new age.*” The next year, Erich Mendelsohn saw and drew the grain elevators of Buffalo, New York. “Everything else so far now seemed to have been shaped interim to my silo dreams,” he wrote to his wife, Louise. “Everything else was mere beginning.”

The photographs of Bernd and Hilla Becher, now on view at the Met, constitute another such moment of awakening. Bernd died in 2007 and Hilla in 2015, so this exhibition marks the first posthumous retrospective of their practice. Working individually at first and then together for decades, the couple constructed an archive of photographs that documented abandoned industrial sites in Western Europe and the United States. The power of their black-and-white images comes from their precision: Made under overcast skies, they are evenly lit such that each bolt is visible, not lost in shadow or blown out in sunlight. Imaged with expertise, photos made decades apart can be believably ganged together in groupings they called “typologies.”

The Met’s show, which chronicles the Bechers’ full careers from the mid-1960s through the early 2000s, was organized by museum curator Jeff L. Rosenheim with assistance from Virginia McBride and in close consultation with Max Becher, the artists’ son, and Gabriele Conrath-Scholl, director of the Photographische Sammlung/SK Stiftung Kultur in Cologne, Germany, which

holds the artists’ archive. The presentation rewards close inspection.

After an introductory staging of “basic forms” (gravel plant, lime kiln, gas tank, coal bunker, etc.), the exhibition begins with the Bechers’ late-1960s project of documenting working-class framework houses in Germany’s South Westphalia. Even then, the couple had found their presentational conceit of gridded groupings; in some sets, the camera rotates around the house as if it were a computer model.

A third room devoted to individual early work realized between the mid-1950s and the mid-1960s is revealing, as it documents how the artists brought their own backgrounds to the collaborative project: Bernd as a visual artist long interested in factories, and Hilla as a skilled photographer exploring machine abstractions. The staging establishes their awareness of precedents like Linnaean taxonomy and Ernst Haeckel’s illustrations and showcases the graphic universe of posters advertising early shows. (Bernd and Hilla worked at the same advertising agency in Düsseldorf in the 1950s.) Beyond being selective about when to shoot, the couple also manipulated their surroundings to create their desired foregrounds: A 1987 video made by Max shows them clearing brush at the base of a grain elevator in Ohio to improve their shot.

After two rooms that focus on industrial landscapes generally and the Zeche Concordia mine specifically, the next room demonstrates the link between the Bechers and Conceptual art through staging work by Sol LeWitt and Carl Andre in the middle of the gallery, ringed by some of the Bechers’ greatest hits. Artists of the 1960s were interested in architecture and anonymity. Perhaps the seeds of this interest were sowed in part by Bernard Rudofsky’s influential *Architecture Without Architects* show, installed at MoMA in 1964; a few years later, the Bechers published their breakthrough book, *Anonymous Sculpture*. The mixture of ideas—advanced by artists like Dan Graham, Robert Smithson, Andre, LeWitt, and others—linked geologic form to minimal art, while the Bechers

captured the industrial processes that produced the materials of modernity.

The final room of typologies is hung in a larger, white-walled gallery. The couple’s popularity stems in part from their consistent bookmaking, so several of their releases are installed here. If viewers have not been previously convinced, this congregation clearly establishes the couple’s mastery. Still, a bit of the era’s machismo lingers: Of the ten photographers shown in William Jenkins’s 1975 *New Topographics* show, Hilla was the only woman.

In the exhibition’s last room, at least one image comes from Buffalo: a grain elevator (now demolished) that reads H-O OATS. The Bechers made the photo in 1982, after Banham departed SUNY Buffalo but before the publication of *A Concrete Atlantis* in 1986. Two years later, Roger Conover, then an editor at The MIT Press, invited Banham to pen the foreword to the Bechers’ *Water Towers*, which introduced their work to American readers; Banham died that year, but his scholarship, notably *A Concrete Atlantis*, made an impact on the Bechers.

The duo saw their documentation as being for engineers. While viewers are not likely to be knowledgeable about the chemical processes that, when operational, these structures enabled, they will probably be impressed by the contraptions’ geometries. We don’t see the efficient logic of engineering but the “aesthetics of science,” a type of looking that had a pervasive influence in 20th-century architecture. (György Kepes’s books are another example of this vision.) In their sensitivity to combinations of forms—and in the curatorial selection and arrangement of images—the Bechers saw themselves as sculptors and managed their critical reception skillfully enough that when they won the Golden Lion at the 1990 Venice Biennale, it was for sculpture.

The Bechers’ influence can be seen in the establishment of the Düsseldorf School of photography, due to Bernd’s decades of teaching at the Kunstakademie Düsseldorf, an oeuvre later advanced by Andreas Gursky, Candida Höfer, and Thomas

Struth, among others; this lineage isn’t explained in the exhibition, but it’s explored in the accompanying catalog.

While the Bechers’ work changed photography, it also changed architecture. The sensibilities of typological analysis, frontal composition, and “un-authored” plainness can be seen in how architecture is created today. In *Epics in the Everyday*, architect and writer Jesús Vassallo proposed that “the lifelong trajectory of the Bechers mirrored the process by which European architects of the period confronted their rapidly changing environment” and connected their work to that of Aldo Rossi, who began exploring architectural type in the early 1960s. In this century, architectural influence arrived in Philipp Schaerer’s *Bildbauten* series, in which he constructed fictional elevations from a digital archive of materially rich imagery. (Texts included with its publication by Standpunkte Books established this connection.) Recently, inspiration can be seen in how contemporary architecture is documented and even in the nine-square results of DALL-E, a text-to-image AI, or Midjourney’s surreal assemblies, which generate new forms of anonymous architecture.

What’s missing from the Bechers’ images is, of course, people. Their abstract ruination evidences the global migration of industry; many of their subjects were demolished soon after having their portraits taken, suffusing them with an elegiac quality. The context establishes a postindustrial landscape in which, decades later, a new flavor of conservatism would come bubbling up like oil. The societal neglect that descended following the Bechers’ exposures—that palpable feeling of “being abandoned” known to anyone living in the Rust Belt or South Westphalia—would prove to be a powerful psychological force that has found in politics an outlet for expression. The sobriety of these images invites an encounter with the inevitable entropy of our material constructions. We shouldn’t accept them with complacency. Rather, their funereal calm sets the stage for how we deal with today’s ecological calamities. **Jack Murphy**

My Mid Journey Trash Pile

Leah Wulfman shares their explorations to make buildings from digital garbage.



A river so polluted it becomes cleansed—we are swimming amid trash. A land undisturbed by rainbows of gasoline—we are surrounded by toxic beauty ablaze.

This summer, I have been using Midjourney to make buildings that appear just out of the realm of possibility and just out of the realm of the present. The results are both highly articulated and highly amorphous. Looking at these buildings feels like gazing into a future where

architecture materialisms are creatively formed out of layered refuse and plastics unremoved from sites of extraction and waste.

Many architects who use text-to-image AIs resort to often-backward-looking disciplinary concepts and styles or replicate/rehash their already underway aesthetic and formal projects. Their images showcase how the AI can generate soupy (but typically better) versions of those efforts. My prompts are much more

basic—water towers, paper mills, and grain elevators, sometimes described purposefully or accidentally with typos (“towers” becomes “tours”)—and materially descriptive. In these images, plastic and metal materials are draped, bent, recycled, tattered, etc. The constructions are expanded and made to leak and drift when combined with rivers, waterfalls, and clouds. They always find themselves on a pile of dirt and trash.

Leah Wulfman is a carrier bag architect, an educator, a game designer, a digital puppeteer, and an occasional writer. Trained as an architect, they are currently the Walter B. Sanders Fellow at the University of Michigan’s Taubman College School of Architecture.

LEAH WULFMAN/MIDJOURNEY

66 Comment

RIP American Dream

Why you can't afford a home, and why you shouldn't want one.



You can't afford to buy a home. You can barely afford to rent. Even if you could somehow scrape together enough cash for a deposit and shackle yourself to a mortgage, you are resigned to reality: You'll only be able to get a property that is too expensive to maintain, in the wrong location, and of poor quality. There's a high likelihood you will come to regret the purchase altogether.

You've known since high school that you would be poorer than your parents and that all the things that appeared to come so easily to them—stable careers, homeownership, children—will be out of reach for you, or a terrific struggle. In some sense, you're not disappointed because you were never under the illusion that another situation was possible. Perhaps you secretly believed in your own exceptionalism, that you would find a way to beat the system. But that hasn't happened. You don't entirely understand the reasons for the housing shortage or the cost-of-living crisis. And so you blame the baby boomers, who seem responsible for murdering the American dream. This is grossly inaccurate. Leave them alone.

I am not judging you; I don't even know you. The text above isn't personal. It simply describes the experience of many readers. It is the Venn diagram of housing dysfunctionality that emerges from cross-comparing hundreds of unique sources: government statistics, public polls, think-tank reports, and academic papers.

For those under 35 (which is about half of you), 38.1 percent have purchased their own home, and 15.9 percent of these people don't have a mortgage. In other words, only 0.57 percent of millennials have enough money to own their home outright. For those aged 35 to 64 (about the other half of you), 69.2 percent own their home, and 41 percent of this group are debt free—coincidentally, the same amount that have no regrets about buying their home. This compares with 64 percent of millennial owners, who do have quite a few regrets.

The underlying factor driving high

prices is a supply crisis. There are simply not enough homes. Between 1968 and 1990 there was an annual increase in stock of about 1.7 percent. By 2000 that had fallen to 1 percent year-over-year. Today it is just 0.7 percent. In real terms, after you discount unoccupied homes and housing stock falling into disrepair, this equates to a net annual loss. In other words, there are actually fewer available homes as time goes on.

We know that demand is only growing, so what is suppressing supply? Obvious causes might include a lack of investment or the high cost of mortgages choking off access to debt. These play a part. The main cause of the shortfall is widely considered to be zoning restrictions. Government at all levels massively prefers single-family, low-density housing. However, it is impossible or impractical to increase this type of housing in line with general need. Preexisting factors restrict such supply from being built: environmental (floodplains, mountains, forests, etc.), spatial (proximity to dense metropolitan areas), and political (including racial and class segregation).

So why would the government insist on zoning rules it knows can't produce desirable outcomes? Isn't the task of the state to provide for its citizens? Surely governance doesn't benefit from spiraling costs, housing shortages, overcrowding, and homelessness? This is where it gets sinister.

Politicians and elected representatives across the country are under immense pressure to not just maintain home prices but ensure they go up. Two-thirds of almost any electorate have taken out a mortgage. This means that their home is both their greatest asset and their greatest liability. Any changes to loan terms are serious enough in themselves, leading to overexposure, foreclosures, and evictions. To avoid this, the Federal Reserve aims to keep its rates as low as possible, which also penalizes savers by giving them poor returns and so pushing them toward consumerism or the stock market, which boosts the economy overall.

Mortgage rates aside, the greater threat to politicians comes from sustained drops in sale prices. This is because mortgages are essentially forced saving plans. Their main social function is to make sure people have enough cash to provide for their old age. If you spend three decades paying off your home only to find it is worth less than when you bought it, this means you can never retire. Worse still, in a country without universal health care or a significant social security safety net, the absence of capital gains from your home could become a life-or-death matter. The state will not help you. A stagnating property market could kill you. This explains why any politician who oversees a collapse in property markets is swiftly replaced.

The only way politicians can control the price of housing is to artificially restrict supply. They do this by placing limitations on the planning and zoning process (often while making it look like they are increasing supply) and by divesting from public housing (selling their existing stock and not making any, or enough, new housing).

There is yet more to this than meets the eye. According to mainstream economic theory, under free-market capitalism if there is an unmet demand, then innovation (the invisible hand) will start generating new product categories. This has not happened. More than 99 percent of all housing is build-to-sell (direct to mortgage or buy-to-rent). According to Housing International (HI), out of a total 138 million homes in the United States just 1 percent are cooperatives—and half of these are in New York City. Even this figure may be an overestimate; HI also lists the U.S. total social housing stock at 10 percent, while the Organization for Economic Cooperation and Development (OECD) says it is not more than 4 percent.

We are in fact describing a loop, or a vicious cycle: Financial institutions respond to government zoning limitations by offering only single-family mortgage products; developers are forced to build single-family, low-density homes; potential residents have no choice except to save up for a mortgage on one of these homes; they become worried their asset might depreciate; politicians court their votes by limiting supply through zoning restrictions; in turn, the financial sector reacts by... well, you get the idea.

One unfortunate side effect of this loop is that, because of limitations on new properties, mortgage lenders and housebuilders are strongly motivated to shorten the life span of the housing stock. The faster a home deteriorates, the faster it can be demolished (which generates profit for the demolition industry) and then rebuilt and remortgaged at a higher rate. Keller East-erling has described the shadow economy of demolition, and the political, socioeconomic, and ecological impacts of shorter building life spans, in her excellent book *Subtraction*. Because this continues to generate profit for existing lenders and developers, there is no incentive to innovate or develop alternatives, and most attempts to do so fail to take into account the scale of capital against which they are competing. (For this reason, you shouldn't be fooled by Silicon Valley start-ups like Bjarke Ingels's brainchild NABR.)

If it weren't so serious, the housing market would be absurdly funny. It sounds like a half-baked project by a lackluster architecture student: full of energy and ambition but optimistically ignorant and fundamentally disconnected from reality. The whole system is so comically ill-conceived and horrifically exploitative, it is a wonder that the American people haven't resorted to open revolution, rising up to overthrow their financial and political institutions. Except that to do this would mean admitting that capitalist property relations are fundamentally flawed, and too many people have too much at stake to tell the emperor he is naked. Deep-level criticism of capitalism remains a tetchy and polarizing topic in the U.S., in spite of the fact that 68 percent of all Americans believe the rich are not paying their fair share in taxes and 49 percent believe that "a complete change of our economic system" is in order.

From a purely economic standpoint, state-built housing could be the government's money tree: Those in power have exclusive access to demographic data that allows them to predict need almost a century into the future; they have access to colossal amounts of debt through the international bond markets which is basically free; they have the ability to compel industry to prioritize their own construction; and they can forcibly acquire whatever land they want. Yet the U.S. refuses to do this, and has one of the lowest levels of social housing in the OECD. Ideology is surely the cause of this, but there are more practical calculations as well: If there were an infinite amount of inexpensive, high-quality housing, the market value of any house would approach zero. This would cause two-thirds of the workforce to lose all their wealth, making this seemingly obvious solution a nonstarter.

It is very hard to see how the entire situation—the complete dominance of single-family, mortgage-backed homes and the shortage feedback loop they create via politics and the financial sector—might be changed. Indeed, the problem goes back farther than we care to realize, as private property is the bedrock of the American project. To "solve" the housing crisis would mean first "solving" the most problematic aspects of U.S. history and its emergence as a nation, from the extermination of Indigenous peoples and the settling of their lands to legal practices of extortion and exclusion such as redlining. The popularization of single-family, mortgage-backed homes is really just the mindless inertia of processes established for colonization. In this sense, the financial sector, politics, and governance—and even the hapless homeowners—are all trapped within a system that dates from an entirely different epoch.

This is why millennials should lay off all the "OK boomer" shade. The boomers merely inherited a restrictive property model they had no part in creating. Their worst crime is that they did nothing to change it. Will we be any different?

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